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TEACHERS' PERCEPTIONS OF HYPERACTIVITY AND CONDUCT PROBLEMS IN CHILDREN

SIBYLLE J. CARLSON

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TEACHERS' PERCEPTIONS OF HYPERACTIVITY AND CONDUCT PROBLEMS IN CHILDREN

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ABSTRACT

TEACHERS' PERCEPTIONS OF
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September, 1982

The purpose of the present study was to investigate the salient factors in teachers' judgements of hyperactivity and conduct problems. An examination of teachers' judgement processes is important since school reports seem to play a major role in the referral of children for diagnosis.

A set of thirty-eight vignettes was presented to fifty elementary school teachers in New Hampshire. Five variables, two levels of each, were systematically varied in the vignettes: gender (male or female), quality of schoolwork (adequate or poor), activity level (medium or high), aggression (non-aggressive or aggressive), and peer acceptance (liked or not-liked). For each vignette, subjects rated the extent they considered the child to be hyperactive (or a conduct problem), how likely they would be to refer the child for evaluation, and how responsible they thought the child was for his/her behavior. The question of

the child's being perceived as hyperactive or a conduct problem was employed as a between-subjects variable. Twenty-nine subjects completed questionnaires that included the hyperactivity question and twenty-one responded to the conduct problem question. Ratings were analyzed with multiple regression analyses using ratings of vignettes as criterion variables and the five characteristics of children as predictor variables.

Hyperactivity ratings were predicted mainly by activity level. Conduct problem ratings were predicted mainly by aggression and activity level. Referrals for evaluation in both cases were based on schoolwork and aggression, and to a lesser degree on activity level and peer acceptance. Children judged to be hyperactive and conduct problems were more likely to be referred for evaluation than those not so judged. Children judged to be hyperactive were considered to be less responsible for their behavior compared to those not judged hyperactive. There were no significant gender effects.

Results suggest that a judgement of hyperactivity involves a more narrowly defined set of criteria than a judgement of conduct problems, and that, in most teachers' conceptualizations, hyperactivity probably constitutes a subset of the more general category of conduct problems.

Distinctions between hyperactivity and conduct problems occurred in terms of judgement and responsibility ratings, but not in terms of referral. Discussion centers on the relationship of aggression and activity level dimensions to judgements about hyperactivity and conduct problems, and on the referral process of children with these characteristics.

INTRODUCTION

It was not until the early 1960's that hyperactivity became the focus of extensive attention and research as a distinct disorder of childhood (Lahey, 1979). The term hyperactivity, used synonymously with hyperkinesis, hyperkinetic impulse disorder, and hyperactive child syndrome, is used to refer to children whose most outstanding behavioral characteristic is an excessive amount of activity. Along with excess activity, hyperactive children are reported to have a short attention span, poor powers of concentration, unpredictable behavior with wide fluctuations (also called "labile mood"), impulsivity, lack of tolerance for delays in gratification of needs and demands, and low frustration tolerance (Laufer, Denhoff, & Solomons, 1957; Stewart, Pitts, Craig & Dieruf, 1966). Additional characteristics of hyperactivity may be frequent fighting with peers, failure to respond to discipline, and academic difficulty in school (Ross, 1980). Hyperactivity has become a rather common childhood disorder in this country, affecting approximately 5-10% of all elementary school children (Weiss & Hechtman, 1979).

Clinical Validity of Hyperactivity and DSM III

The widespread prevalence of hyperactivity has engendered a large volume of research, and recently a considerable amount of controversy. Lahey (1979) has noted that this disorder has gone through three paradigms of conceptualization and treatment. The first paradigm viewed hyperactivity as a medical-model disease entity and focused on treatment with medication. The second paradigm focused on overt behaviors and efforts to reduce hyperactive behavior with behavior modification. The third paradigm changed the focus of treatment to improving academic skills rather than reducing hyperactivity.

If a fourth paradigm could be postulated, its focus would be on a social systems comceptualization of hyperactivity, in which the child's position and role in his immediate environment is taken into account. In light of increasing empirical evidence which fails to demonstrate either physiological or behavioral differences between hyperactive children and children with other psychiatric disorders, a medical-model conceptualization of hyperactivity is being severly criticized, and the validity of hyperactivity as a distinct disorder of childhood is being questioned (Schrag & Divoky, 1976). Current studies are responding to these criticisms by examining hyperactivity in relation to environmental variables such as the home and school rather than focusing exclusively on the child (Whalen & Hencker, 1980).

Hyperactivity/MBD and Medication

Some time ago it was recognized that excessive activity was symptomatic of some children with known brain damage (Strauss & Lehtinen, 1947). The analogy followed that since agitated behavior was often a symptom of brain damage, perhaps children who were excessively active also suffered from some type of brain damage. This logic moved the purview of the overactive child from the home and school to the doctor's office. Thus began a medical-model application to hyperactivity and the search for etiology in brain damage or some inherent defect within the child. The term "minimal brain damage (MBD)" was coined to account for hyperactive behavior, and soon came to be used synonymously with the term "hyperactivity". From treating severely brain damaged children, physicians already knew that certain amphetamines quieted agitated behavior (Bradley, 1937). Prescribing drugs for hyperactive children seemed a solution for a problem parents and teachers had been unable to solve. The initial effectiveness of calming hyperactive children with medication, and early short-term reports of beneficial effects, led to the widespread use of medication as the major treatment for hyperactivity, especially in the United States (Weiss & Hechtman, 1979).

An extensive amount of research has focused on the effects of medication on hyperactive children. Barkley (1977) reviewed 110 studies assessing the effects of stimulant drugs on more than 4200 hyperactive children. He

concluded that approximately 75% of hyperactive children improved when placed on stimulants while about 25% remained unchanged or were debilitated by the drugs. Although the drugs appeared to facilitate short term management of hyperactive behavior, they did not improve long-term social, academic, or psychological adjustment of these children. Thus overall, stimulant drugs by themselves were considered inadequate for the treatment of hyperactivity in children.

Along with investigations of effectiveness of drug treatment for hyperactivity, some researchers have also documented side effects of these medications. Barkley (1977) reports that the most frequently mentioned side effects include insomnia, anorexia, irritability, and abdominal pains. Other side effects less frequently reported have been headaches, drowsiness, sadness, dizziness, nausea, proneness to crying, euphoria, nightmares, tremors, lethargy, depression, dazed appearance, nervous tics, and anxiety. Several studies also reported stimulant induced psychoses such as visual and tactile hallucinations. Arnold (1973a) cautioned that cardiovascular disturbances from drugs such as headaches or palpitations should be investigated promptly, but suggested that most side effects such as anorexia, insomnia, or gastrointestinal cramps appeared to be more annoying than dangerous, and could usually be alleviated with reduced dosages or switching to another drug.

One side effect which has been viewed as more serious has been suppressed height and weight gain. In a long term study on the effects of stimulant drugs on children, Safer & Allen (1975) found that certain drugs were capable of suppressing both height and weight increments in children, and that longer and more frequent drug administration led to greater growth suppressing effects. On discontinuance of the drug, some rebound effects in weight did occur, but height gains continued to be problematic. The authors suggested that children be removed from stimulant drugs during school vacations and over the summer to allow for partial compensation of suppressed height and weight gains.

Extensive research aimed at providing support for the minimal brain damage hypothesis of hyperactivity has for the most part been negative - little evidence has been found to show that brain functioning of hyperactive children is significantly different from brain functioning of non-hyperactive children (Ross & Ross, 1976; Shaffer & Greenhill, 1979). In response to the lack of supporting empirical evidence, the term "minimal brain damage" was changed to "minimal brain dysfunction", implying that there was still some brain dysfunctioning present even though none could be localized (Lahey, 1979). The change in terminology and concomitant reasoning seemed sufficient for the continued widespread drug treatment of hyperactivity, although a major controversy ensued.

Primarily as a result of little empirical evidence supporting the minimal brain damage hypothesis of hyperactivity (an hypothesis which provided the basis for treating hyperactivity with drugs) researchers began to focus on whether there is any clinical validity to the concept of hyperactivity as currently used in the United States. The charge that children who misbehave, either at home or at school or both, are being managed with drugs under the guise of hyperactivity has prompted researchers to investigate differences between children with conduct problems and children diagnosed as hyperactive. One factor which has called attention to this issue has been the recognition of the noticeable difference in prevalence of hyperactivity between children in the U.S. and Great Britain. While between 5% and 10% of all U.S. school children are estimated to be hyperactive, only 1 in 1000 are diagnosed hyperactive according to a survey done in the Isle of Wight (Sandberg, Rutter, & Taylor, 1978). A clinical diagnosis of hyperactivity is made much more sparingly in Great Britain, and is diagnosed only for those children who exhibit an excessive amount of activity across time and situations, and even then it is generally diagnosed only for those children who are mentally retarded or have some known physical disorder (Sandberg, Rutter, & Taylor, 1978).

In the United States, the diagnosis is much broader. In the third edition (1980) of the American Psychiatric Association's Diagnostic and Statistical Manual (DSM III)

the name of this diagnosis has been changed to "Attention Deficit Disorder" (ADD) to indicate that attentional difficulties are the primary component of the disorder, and that while excess activity may diminish with maturity, attentional difficulties often do not. DSM III lists two subtypes of this disorder: ADD with Hyperactivity, and ADD without Hyperactivity. The ADD without Hyperactivity category includes all the symptoms of ADD with Hyperactivity except for the absence of excessive activity.

The three major diagnostic criteria of ADD with Hyperactivity are inattention, impulsivity, and hyperactivity. Inattention is defined as failing to finish things started, not seeming to listen, being easily distracted, having difficulty concentrating on schoolwork or other tasks requiring sustained attention, and having difficulty sticking to a play activity. Impulsivity is defined as acting before thinking, shifting excessively from one activity to another, having difficulty organizing work, needing a lot of supervision, frequently calling out in class, and having difficulty awaiting one's turn in games or group situations. Hyperactivity is defined as running about or climbing on things excessively, having difficulty staying seated, moving excessively during sleep, and always "on the go" or acting as if "driven by a motor." According to DSM III, at least three of the behaviors described in each of these categories (two symptoms of hyperactivity) must be present to warrant this diagnosis, with a duration of at

least six months and onset before the age of seven. The syndrome is reported to be ten times more common in boys than in girls.

One of the major criticisms leveled at the clinical syndrome of hyperactivity has been the subjectiveness of the diagnostic criteria. Someone has to decide what is excessive motor activity, difficulty in sustaining attention, and impulsive behavior as opposed to non-impulsive behavior. As Ross (1980) states, "the definition of hyperactivity is arbitrary and relative, but this definition, probably more so than all others, depends almost exclusively on the tolerance level of the child's environment"(p. 235). The key distinguishing behavior of the syndrome is the child's excessive activity. Restlessness among elementary school-age boys seems to be quite common, however. In a study by Werry & Quay (1971), teachers rated 49.7% of supposedly normal boys in grades kindergarten through second grade as restless and unable to sit still. Another study (Tuddenham, Brooks, & Milkovich, 1974) reported that 42% of parents surveyed rated their ten-year-old boys as restless. Ross (1980) suggests that it is not restlessness per se, but restless behavior that brings the child into conflict with his environment that prompts consideration of a diagnosis of hyperactivity. This environment is most often the school.

Hyperactivity in School

The criteria defining hyperactivity in DSM III are all especially pertinent to the school environment. Difficulty in sustaining attention would be most noticeable in the structured environment of the school in which learning is expected to take place and attention to the task is demanded. The six manifestations of impulsivity also seem to be describing difficulties encountered in the school situation, either in class or on the playground. Indeed, most hyperactivity is not diagnosed until the child enters school. The highest incidence of initial assessment of hyperactivity occurs during the first three grades of elementary school (Weiss & Hechtman, 1979). This is not necessarily because hyperactivity is worst during ages 6 through 9, but may be that excessive activity is less well tolerated in school than it is at home. At home the child is less restricted and has less demands placed on him than in a school situation. In the classroom where the child is one out of 25 or 30, he may for the first time be required to engage in sedentary behavior and concentrate on assigned tasks.

The high incidence of initial diagnosed hyperactivity in the early elementary school grades, coupled with the high rate of restlessness observed in normal children, has led to speculation that perhaps the problem lies not within the child but within the school system and the tolerance level of the teacher. It has been suggested that for some

children school is boring. When bored, such children may have a difficult time maintaining their attention, or they may find few tasks "worthy" of sustained attention. Schools thus may be unrealistic in their expectations of children's behavior. It is therefore possible that children diagnosed as hyperactive are being medicated to make them more obedient, i.e., medication is being perpetrated on unsuspecting children and their parents as a form of social control (Schrag & Divoky, 1975).

Reported problems in school figure prominently in a diagnosis of hyperactivity. In a study examining the identification of hyperactive children in a large Hyperactivity-Learning Disabilities clinic, Conrad (1976) noted that a diagnosis of hyperactivity was never made without reported problems at school . It was assumed that if the child was not a management problem at school, then he was not hyperactive. Severe management problems at school seem to have become almost synonymous with hyperactivity. A psychiatrist reports,

> "One of my rules of thumb in clinical practice is: if an elementary age child has hyperkinetic symptoms at school and not at home, he is probably hyperkinetic; if he has symptoms at home and not at school, he is probably not hyperkinetic; if he has trouble both places, he may be hyperkinetic and if he is, it is a more serious case than if he only had trouble at school." (Arnold, 1973b, p. 512)

DSM III suggests that if parent and school reports conflict, the report from the school should be given primary consideration. This situational hyperactivity, e.g., hyperactivity at school but not at home, is one of the areas

in which diagnoses differ between the U.S. and Great Britain. In Great Britain, a child is considered to be hyperactive only if he exhibits the symptoms across time and situations, i.e., continuously, both at home and in school. In the U.S., it is quite common for a child to be diagnosed hyperactive who exhibits symptoms in only one setting, and this setting is generally the school. This is one of the areas which has received the greatest outpouring of criticism - considering a child to be hyperkinetic even if he does not exhibit hyperkinetic symptoms across time and situations, that is, if he only acts hyperactive in school but not at home.

Hyperactivity as a Unique Syndrome

Some feel that the syndrome of hyperactivity does not include a homogeneous group of children but probably consists of a number of subgroups, each of which may comprise varying combinations of symptoms (Klein & Gittelman-Klein, 1974; Loney, Langhorne, Jr., & Paternite, 1978; Schmitt, Martin, Nellhaus, Cravens, Camp, & Jordan, 1973), thus children who are only hyperactive in school, or who are hyperactive both in school and at home may comprise different subgroups of hyperactives, but both, nevertheless, can be considered hyperactive. Others feel that children who do not exhibit hyperkinetic symptoms across time and situations cannot be truly hyperkinetic, but may instead be children with conduct problems who are being erroneously diagnosed as hyperactive. Despite the high prevalence of

the diagnosis of this disorder, these critics question whether children diagnosed as hyperactive differ in meaningful ways from children with conduct problems (Lahey, Green & Forehand, 1980; Schrag & Divoky, 1975; Shaffer & Greenhill, 1979).

a. Difference Between Hyperactivity and Conduct Problems

Support both for and against the existence of a unique clinical syndrome of hyperkinesis which is separate from other conduct problems has come from factor analytic studies of ratings of children's behaviors. Typically, parents and/or teachers are given a list of items describing children's behaviors and are asked to rate to what extent each item is descriptive of a particular child. Some of these studies have been able to extract clusters of items containing descriptors such as excessive activity, short attention span, and impulsivity which have been labeled as a hyperactivity factor, in addition to a separate factor containing items such as quarrelsome, destructive, and uncooperative which has been labeled a "conduct problem" factor (Conners, 1969; Lahey, Stempniak, Robinson, & Tyroler, 1978). The factorial extraction of these two relatively orthogonal factors has been presented as evidence for the existence of hyperactivity as a clinical disorder distinct and separate from conduct problems. Although some other factor-analytic studies have not been able to extract a separate factor hyperactivity, it has been suggested that perhaps the behavioral descriptors had not included a

sufficient number of items related to hyperactivity to permit the extraction of a separate factor (Lahey et al, 1978).

Evidence against the existence of a hyperactivity syndrome separate from conduct problems is suggested by the high correlations between conduct problem and hyperactivity factors. One of the most widely used hyperactivity rating scales has been the Conners Teacher's Rating Scale (CTRS) (Conners, 1969). It was developed primarily to assist in evaluating the effects of medication on children, and was initially tested in a study comparing medication and placebo effects on a large group of children. Although intercorrelations between factors are not presented by Conners, other researchers who have utilized this scale have reported correlations between the conduct problem and hyperactivity factors to be .77 (Werry, Sprague & Cohen, 1975) and .70 (Lahey et al, 1978).

In a study designed to assess the independence of hyperactivity and conduct problems as separate categories, and to provide some validity for the rating scale (Lahey, Green & Forehand, 1980), the 39 item CTRS was completed by teachers for 109 elementary school children and compared to direct observations of children's behavior, peer ratings by classmates, and academic performance. Multiple regression analyses of various combinations of the factors of the CTRS were used to determine which combinations were the best predictors of child behaviors, and to assess whether the

conduct problems and hyperactivity factors were independent of each other. Results showed that the hyperactivity and conduct-problems factors of the CTRS were highly correlated (r=.70). These two factors essentially accounted for the same variance in the regression analysis. Neither hyperactivity nor conduct problems contributed unique variance to the analysis, and both factors seemed to be measuring the same behaviors. This study did provide some support for the validity of the CTRS, for the teachers ratings were moderately correlated with independent behavioral observations, peer ratings and academic achievement (r square = .074 to .350). However, the authors concluded that their study provided no support for the existence of a diagnostic category of hyperactivity which is separate from conduct problems.

In a thorough and well designed British study (Sandberg, Rutter, & Taylor, 1978), the CTRS and Conners Parents Rating Scale (CPRS) were used to investigate the difference between British and American practices of diagnosing hyperactivity. As previously stated, the prevalence of hyperactivity is very small in Britain, about 1 in 1,000, and most of these are children with neurological defects or mental retardation. Behaviors such as overactivity, inattentiveness, and impulsivity are included under the diagnostic category of conduct problems. The study employed the Conners scales "as the initial measures of hyperactivity since they have been used as the main

diagnostic instruments in most American studies" (p. 282). The sample in the study consisted of 68 boys who had been referred for psychiatric assessment. Each child was given a neurological examination and psychological tests. The mother was interviewed for background information, and the Conners scales were completed by one parent and by the child's teacher. Behavioral measures of the child's activity and attention span were recorded during the psychological assessment phase to provide measures of behavior to compare with the rating scales. The conduct and hyperactivity factors of the rating scales were compared separately with the various other assessments of the children to determine if they were independent. Results showed that the hyperactivity and conduct factors correlated .60 within the teachers' scale and .34 within the parents' scale, both significant. The correlation of the hyperactivity factor between the parents and teachers scales did not reach significance, however. This suggests that excessive activity may be specific to the situation, e.g., may occur only in the home or only in school.

The Conners scales were used to divide the children into hyperactive and non-hyperactive groups, and the groups were then compared on the other measures. Overall, there were very few differences between the groups predicted by the hyperactivity rating. Those children rated as hyperactive by the scales were not more impulsive (measured by responses to Kagan's Matching Familiar Figures test), did

not have more adverse histories and were not neurologically different. There was no association between hyperactivity ratings and observational measures of behaviors. The only differences found between the two groups differentiated by the ratings scales were that children rated as hyperactive by the Conners Teachers Rating Scale tended to have I.Q.'s below 90 and came from larger families. The authors concluded that the Conners scales were not successful in identifying hyperactive children (in this study, at least) that differ meaningfully from children with a general conduct disorder.

In a follow-up epidemiological study designed to investigate possible biological and psychological causal influences on hyperactivity and conduct problems, it was again found that neither parent nor teacher questionnaires were able to distinguish between hyperactivity and conduct problems (Sandberg, Wieselberg, & Shaffer, 1980). Children identified as hyperactive and conduct problems by the questionnaires were highly similar in social background, developmental history, and physical anomalies. Furthermore, the parent and teacher questionnaires identified different children as exhibiting hyperactive or conduct problems. Teachers' ratings of disturbance were related to high social disadvantage, and parents' ratings of disturbance were related to maternal mental stress. In the sample of 226 elementary school-aged boys, only 3 were rated hyperactive by both parents and teachers.

In a recent review article, Shaffer and Greenhill (1979) evaluated available literature on the hyperactive child syndrome with regards to postdictive, concurrent, and predictive validity. They suggest that the popularity of a diagnosis does not in itself demonstrate its usefulness or validity. In order for a clinical syndrome to be valid it must differentiate the groups on measures other than the defining symptoms, such as etiological or neurological differences (postdictive validity), demonstrable differences from other clinical groups other than those defined by the syndrome (concurrent validity), or differential treatment responses or natural history (predictive validity).

With respect to etiological or neurological differences, it was pointed out that the relationship between hyperactivity and brain damage has not been supported (Shaffer, McNamara & Pincus, 1974; Werry, Minde, Guzman, Weiss, Dogan, & Hoy, 1972), thus postdictive validity has not been demonstrated. With respect to concurrent validity, the high rate of overactivity among adjudged normal children precludes activity rate in and of itself as a valid basis from which to distinguish between hyperactive and normal children. Even though overactivity, inattention, and impulsivity may be more prominent among disturbed children, these behaviors do not discriminate between children with different types of psychiatric disorders such as conduct disorders, neuroses, and hyperactivity. Predictive validity in terms of response to

drug treatment is equivocal. While it has been shown that a majority of hyperactive children respond favorably to drug treatment, not all of them do, and it is not certain that the responses are unique to hyperactive children (Barkley, 1977). Normal children have been shown to respond to drug treatment in the same way and in the same direction as hyperactive children, i.e., with a decrease in motor activity and improved performance on cognitive tests (Rapoport, Buchsbaum, Zahn, Weingartner, Ludlow, & Mikkelsen, 1970), thus it is questionable whether response to drugs can be used to validate the hyperactivity syndrome.

b. Other Subgroups

One possible problem contributing to the difficulty in demonstrating the validity of the hyperactive child syndrome may be the heterogeneity of the children grouped as hyperactive. Shaffer & Greenhill (1979) surveyed 21 different treatment studies of hyperactive children and found that for most of them the only selection criteria for inclusion in the study was the judgement of a referral agency that the child was hyperactive, and only two required that the diagnosis be agreed upon by two independent observers. Other studies have simply used results of hyperactivity rating scales to group children into hyperactive and non-hyperactive categories. Given the ambiguity and subjectivity of the diagnostic criteria, it is possible that different subgroups exist within the global category of what is commonly conceived of as the hyperactive

child syndrome, and any real differences between subgroups, between subgroups and normals, or between subgroups and other clinical groups may be obscured when children with hyperactivity are grouped into an undifferentiated whole.

Some research has begun to focus on delineating subgroups within the hyperactive child syndrome. Using factor analysis of medical chart ratings of 135 boys involved in a longitudinal study of the Hyperkinetic/MBD Syndrome, Loney, Langhorne, & Paternite (1978) identified two relatively independent factors which they labeled Aggression and Hyperactivity. These two factors accounted for 45% and 23% of the factor variance, respectively.

In a follow up study (Langhorne & Loney, 1979), the Aggression and Hyperactivity scores for each child were used as independent variables to form four subgroups of children who were either high or low on Aggression and Hyperactivity. Results of 16 analyses of variance produced significant main effects on 14 of them with no interactions between Aggression and Hyperactivity. The hyperactive groups made significantly more errors on the Bender Gestalt, a visual-motor test used predominantly for the detection of brain damage (Anastasi, 1976), which is used by some psychologists as a diagnostic tool for hyperkinesis. Hyperactives responded significantly better to drug treatment than aggressives; this suggests that perhaps medication is effective on hyperactivity but not on aggressiveness diagnosed as hyperactivity and may account

for some of the variability found in treatment effectiveness. Self-esteem deficits were significant for the Aggression factor only, indicating that lowered self-esteem may be a correlate of aggression rather than hyperactivity as is often suggested.

An interesting result was that the mothers' ratings of hyperactivity following treatment related to the Aggression factor while the examiner's rating of hyperactivity at follow-up related to the Hyperactivity factor. This suggests that mothers may be confounding aggression and hyperactivity, but examiners in this case were able to discriminate between the two, even within the limited exposure of a testing situation.

Other studies have suggested that mothers' ratings of their children's behavior may be biased. In trying to identify a group of children who were pervasively active for inclusion in a treatment study, Klein and Gittelman-Klein (1975) selected only those children who were rated as hyperactive in at least two out of three settings - school, home, and clinic. They found that mothers' ratings of their children did not reflect their descriptions of the children given during interviews - the ratings seemed to reflect their subjective evaluations of the children rather than objective descriptions of behaviors. If a certain behavior was not bothersome to the mother, for example, it might be rated as low regardless of the actual level of the behavior.

Part of this discrepancy may be due to the inadequacy of various rating scales used. Some rating scales for hyperactivity use ambiguous items and ambiguous response categories, both of which call for considerable interpretation on the part of the rater. Such scales may produce innacurate ratings due to individual differences among raters. Response categories for the Conners Scales, for example, include "Just a Little", "Pretty Much", and "Very Much". Ross and Ross (1976) asked white, middle-class mothers how many times a behavior would have to be emitted by a child in order to be placed in each of the response categories. Results showed wide variations for each response class. Responses in the "Pretty Much" category, for example, ranged from 3 to 200 even for this fairly homogeneous group of respondents. The Conners scales are among the most frequently used in determining diagnoses and assessing medication effects.

Difficulty in accurate assessment of hyperactive behavior and possible confounding with aggressiveness is not limited to the home and parental ratings. In their search for a pervasive hyperactive sample, researchers found that 19 of 35 children referred by the school because of hyperactivity were not acceptable for their study because they were not determined to be hyperactive by direct classroom observation (Klein & Gittelman-Klein, 1975). A separate study (Prinz, Connor, & Wilson, 1981) compared teachers ratings of hyperactivity on the Conners Abbreviated

Teacher Rating Scale (ATRS; Conners, 1973) with aggressive and hyperactive behaviors assessed separately. Hyperactivity ratings on the ATRS correlated .47 and .49 with the other measures of aggression and hyperactivity respectively, and overall those children with the highest frequency of both aggressive and hyperactive behaviors received the highest ratings on the ATRS. The ATRS was selected because it is so widely used as both a screening device and measure of treatment effectiveness for hyperactivity. The authors report that out of 57 data based articles surveyed using rating scales, 31 used the Conners scale. Sandberg, Rutter, and Taylor (1978) used the Conners scale as an independent variable and found that the scale was not valid in identifying groups of hyperactive children who differed significantly from children with more general conduct disorders. It is possible that aggressive and hyperactive dimensions of behavior are confounded when assessed by instruments such as the Conners scale.

Summary

To summarize, even though hyperactivity has only been a recognized childhood disorder within the last twenty years, it has become quite common with prevalence estimated to be 5-10% of all elementary school children. Since hyperactivity was originally believed to be a result of minimal brain damage, the treatment of choice was medication which was already known to be effective in treating hyperactive brain-damaged children. When research failed to

provide evidence of brain dysfunctioning in diagnosed hyperactive children, and it became clear that stimulants were not effective in quieting the behavior of all children diagnosed as hyperactive, drug treatment of these children came into question. Due to research efforts within the last decade, the whole concept of hyperactivity as a clinical entity has become an area of debate. This is reflected somewhat in the change in DSM III from an emphasis on hyperactivity to an emphasis on attentional difficulties; the distinguishing feature of ADD with hyperactivity from other ADD's, however, is still the hyperactivity component. Research has failed to demonstrate how hyperactives differ from other clinical groups, most notably conduct disorders, in etiology, current symptoms, response to treatment, or prediction of natural history. A current debate going on in research is whether or not hyperactivity differs in a meaningful way from conduct problems. This is being addressed in one sense by investigations into the relationship between aggressive and hyperactive behaviors and a possible confounding between the two in terms of diagnosis and evaluation of treatment effects.

One of the main criticisms of hyperactivity as a clinical concept has been the subjectivity of the criteria - a child may be diagnosed as hyperactive if his behavior is excessively inattentive, impulsive, and hyperactive. The subjectiveness lies in what is considered excessive and by whose standards. Since many children are first diagnosed

hyperactive in early elementary school, is the excessiveness a function of the child's behavior, the school's standards, or an interaction? Research has shown that behavior is not consistent across settings - children who exhibit hyperactive behavior in school may not necessarily exhibit the same behavior in a new situation or in a one-to-one setting (Klein & Gittelman-Klein, 1975; Schmitt et al, 1973). Since diagnosticians view only a minute portion of the child's behavior in a restricted setting, their diagnosis must of necessity take into account reports by others regarding the child's behavior, namely reports by the child's parent(s) and teacher(s). The accuracy of these reports is debatable, and it is unknown how much weight they are given in determining a diagnosis.

Problems associated with diagnosis are legion. Many studies that have compared a group of hyperactive children to another group have simply included in the hyperactive group those "diagnosed as hyperactive" by some referral agency. Others which have used more specific diagnostic criteria have found their sample substantially reduced from a larger group "diagnosed as hyperactive" or referred for hyperactivity. Klein and Gittelman-Klein (1975), for example, found that almost 40% of their original sample of hyperactive children was unacceptable because direct observations failed to confirm reports of hyperactivity and distractibility from home and school reports. With a more global diagnosis which had not included direct behavioral

observations, these 40% would probably have been included in a research study.

Since many children are first diagnosed as hyperactive during their early school years, the role of the teacher has received some attention. Some feel the teacher's evaluation of the child's behavior is essential to the diagnosis and consider hyperactivity almost synonymous with problems in school (e.g., Arnold, 1973b; Conrad, 1976). One comprehensive diagnostic study of hyperactive children reported that over half the children studied were referred by the school system, but only 13% of all children referred were finally judged to be hyperactive by all clinic diagnosticians (Kenny, Clemmens, Hudson, Lentz, Cicci, & Nair, 1971).

In a study investigating teachers' perceptions of hyperactive children, more than twice as many children were rated hyperactive by teachers than were actually diagnosed as having Hyperactive Impulse Disorder by a child development clinic (Johnson & Prinz, 1976). Detailed questionnaires completed by teachers revealed that movement was the most important variable in labeling a child hyperactive, especially movement resulting in noise or distraction. It appears that teachers may tend to assume more children are hyperactive than are eventually diagnosed as having the disorder by a professional. Discrepancies between teachers' perceptions of hyperactivity and clinicians' diagnoses of hyperactivity would, of course, be

mediated by how heavily a clinician would weigh a teacher's report.

In a survey of medical diagnostic and treatment practices of hyperactivity (Sandoval, Lambert, & Yandell, 1976), physicians rated symptoms which they considered to be of critical importance in diagnosing hyperactivity. Results of the survey showed that physical examinations were not considered important in arriving at a diagnosis - most respondents viewed hyperactivity as a behavioral rather than a medical condition. Information deemed important for diagnostic purposes by most respondents included inability to sit still, destructiveness of toys and furniture, inability to tolerate frustration, presence of a similar condition in another member of the family, discipline problems in class , and moving quickly from one activity to another in class. The highest number of signs deemed critical for a diagnosis of hyperactivity were included under the heading of "School History": all nine items listed were rated as being important and no school-related items were listed as being unimportant.

In a creative attempt to discern the criteria used by clinicians in diagnosing hyperactivity, researchers used descriptive profiles of children referred for diagnosis, and asked 16 clinical psychologists to judge whether or not they considered the child described in the profile to be hyperactive (Ullman, Egan, Fiedler, Jurenec, Pliske, Thompson & Doherty, 1981). The profiles were written as

clinical case descriptions and provided information on 19 variables, including results of psychological evaluation, parental reports, behavioral descriptions of activity level, and school reports. Multiple regression analyses were utilized to describe the decision making policies of each clinician individually and for the group as a whole. Although there was considerable variability among the 16 clinical psychologists who participated in the study as to whether the child was considered to be hyperactive or not, as a group, the single cue which accounted for the most variance in the multiple regression equation (50%) was the teacher's report. Interestingly, soft neurological signs were not an important cue in determining a diagnosis of hyperactivity in this study, nor were they in the Sandoval survey of physicians.

Statement of Purpose

Studies which have attempted to demonstrate the validity of the Hyperactive Child Syndrome in areas of etiology, response to medication, or natural history have been unsuccessful in distinguishing groups of hyperactive children from other groups (Shaffer & Greenhill, 1979). Those studies which have directly addressed both hyperactivity and conduct problems have concluded that these dimensions may be confounded in research (e.g., Lahey, Green & Forehand, 1980; Prinz, Connor & Wilson, 1981).

A majority of children are initially referred for possible hyperactivity by the school. The clinician who makes the eventual diagnosis of whether a child is hyperactive must rely heavily on reports of others, since his own interactions with and observations of the child are generally minimal. Some studies have suggested that the report from the school is weighed more heavily than the parental report (e.g., Conrad, 1976). Indeed, DSM III suggests that when reports from school and the home conflict, the school report should be given more weight.

This study focuses on a critical point in the diagnostic process, that time at which referral for the child might be initiated. Most studies which investigate hyperactivity in children utilize groups of children which are either already referred for evaluation or are already diagnosed as hyperactive. This study is an attempt to determine which characteristics in children might lead to referral and possible diagnosis, and to determine whether different criteria are used for judgements of hyperactivity and conduct problems.

The focus of the study is on teachers' perceptions of hyperactivity and conduct problems in children. Written descriptions of childrens' behaviors at school, in the form of individual profiles or case reports, were presented to elementary- school teachers. Teachers were asked to judge to what extent they would consider the child described in each profile to be hyperactive, how likely they would be to

refer the child for evaluation, and how responsible they thought the child was for his/her behavior.

In order to compare teachers' perceptions of hyperactivity and conduct problems, other teachers were presented the same profiles, but were asked to judge to what extent they would consider the child described in the profile to be a behavior problem rather than hyperactive. They were also asked how likely they would be to refer the child for evaluation, and how responsible they considered the child to be for his/her behavior.

METHOD

Subjects

Fifty elementary-school teachers (41 females, 5 males, 5 unidentified) from three different cities in New Hampshire participated in the study. The mean age of the participants was 39 years old (range 24-67), and the mean number of years teaching experience was 14 (range 1-43).

All subjects were teaching in a public elementary school at the time they completed the questionnaire. Grades taught ranged from kindergarten through sixth grade (median=fourth grade). Twelve participants were special education teachers and two were school principals. Twenty-eight of the subjects (56%) had bachelor's degrees, 20 (40%) had master's degrees, and 2 (4%) did not indicate their level of education.

Teachers from eight different schools from the cities of Concord, Somersworth, and Rochester took part in the study (one principal was in charge of two schools). Three of the schools in Concord included grades K-6, and the other included grades K-3. The other schools all included grades 1-6. The mean number of teachers in these schools was 10 (range 4-14), and the mean number of students was 219 (range 67-354).

Procedure

To obtain participants for the study, elementary-school principals in three cities in New Hampshire were contacted. The nature of the study was described, and principals were asked if they wished to invite teachers from their schools to participate. Seven out of eight principals contacted agreed to ask teachers from their schools to take part in the study.

A total of 100 questionnaires, 50 in each condition, were distributed. Equal numbers of hyperactivity and behavior-problem questionnaires were left with the principal of each school to be distributed to teachers. The completed questionnaires were collected one to two weeks later. Approximately half of the teachers from each school completed the questionnaires, and principals from two of the schools also participated. Participants reported they spent approximately one hour completing the questionnaire.

Of the 100 questionnaires, 58 were returned. Eight of these were incomplete (6 conduct-problem; 2 hyperactivity) and were not used. Twenty-nine people completed questionnaires which asked the question, "To what extent would you consider this child to be hyperactive?", and twenty-one people completed questionnaires which asked, "To what extent would you consider this child to be a behavior problem?"

Design

The study is a split-plot design with one between-subjects factor of condition (the question of hyperactivity or conduct problem) and five within-subjects factors which were the characteristics of the children described in the vignettes (gender, quality of schoolwork, activity level, aggressiveness, and peer acceptance). Each within-subjects factor contained two levels which are described within the section on vignettes.

Instrument

Each questionnaire (see Appendix A) contained a cover sheet which briefly described the nature of the study, a set of general information questions about the participant (sex, age, grade taught, number of years teaching, educational level), and a set of 38 vignettes to which participants were asked to respond.

Vignettes

The vignettes were constructed in the form of brief reports similar to those which might be written by a teacher for a school referral. Each vignette was designed to include the same information teachers would have if the child attended their school and information on which a referral might be made. This information included the name, age, and grade of the child, I.Q. score, quality of schoolwork, class behavior and social behavior.

Five within-subjects variables, two levels of each, were systematically varied in the profiles. These five variables were gender (male or female), quality of schoolwork (adequate or poor), activity level (medium or high activity), aggressiveness (non-aggressive or aggressive), and peer-acceptance (liked or not-liked by peers). All possible combinations of the five independent variables (2 levels of each) resulted in a total of 32 vignettes.

These five variables were selected on the basis of prior research which has indicated that these characteristics seem to be important in identifying and diagnosing hyperactivity in children. Since hyperactivity is so prominently associated with boys, gender was included as a variable to determine if teachers would be more likely to view boys than girls as hyperactive when all other characteristics are equal. Studies of clinical diagnostic procedures have indicated that school reports of academic and behavior problems are heavily weighted in determining a diagnosis of hyperactivity (Conrad, 1976; Sandoval et al, 1976; Ullman et al, 1981). In the Ullman study, for example, teachers' reports of activity level, academic problems, and behavior problems accounted for 56% of the total variance of psychologists' diagnoses. Therefore it seemed particularly important to include these variables here in order to determine if they are differentially weighted when the question asked is about hyperactivity

compared to when the question is about conduct problems. Finally, peer acceptance was included as a variable to determine if social acceptance of a child would influence teachers' perceptions of hyperactivity or conduct problems.

Six of the 32 vignettes (3 male and 3 female) were randomly selected for replication to provide a reliability check. These six replications were identical to the original vignettes except that different names were used. Thus each questionnaire contained a total of 38 vignettes, 32 originals plus 6 replications. The order of vignettes within each set was varied randomly to avoid possible order effects.

All vignettes for males and females were identical except for a one-point difference in I.Q. scores. This was done to avoid possible recognition of similarities of vignettes due to identical I.Q. scores. Although I.Q. was not included as a variable, I.Q. scores from the WISC-R (Wechsler Intelligence Scale for Children-Revised) were included because this is information teachers would be likely to have about a child. All I.Q. scores were within the normal range (95 to 110) with no more than a 9-point difference between Verbal and Performance I.Q.'s.

Dependent Measures

Two complete sets of the questionnaire were produced. The sets were identical except that one set included the question, "To what extent would you consider this child to be hyperactive?", and the other set included the question,

"To what extent would you consider this child to be a behavior problem?" Questionnaires in both conditions also included the questions, "How likely would you be to request evaluative service for this child?" and "How responsible do you think this child is for his/her behavior?" Thus all subjects answered three questions following each vignette. To facilitate discussion, responses to the hyperactivity/behavior-problem question will be referred to as judgement ratings. Responses to the second question will be referred to as referral ratings, and responses to the third question will be referred to as responsibility ratings. All questions were answered on a 7-point scale ranging from 1 ,not at all, to 7 ,very much. These ratings were the dependent measures used for subsequent analyses.

After responding to all 38 vignettes, participants in the hyperactivity condition were asked to describe what characteristics they used to judge hyperactivity, and participants in the conduct problem condition were asked what behaviors they considered to be a problem in children. Responses to these questions were to provide additional information regarding teachers' perceptions of hyperactivity and conduct problems in children.

RESULTS

Demographic information about participants in the two conditions (i.e., whether they answered the hyperactivity or conduct problem question) was analyzed to ascertain that the two groups were comparable. Results of these analyses are presented in Appendix B1. Chi square and analyses of variance showed that subjects in the two conditions did not differ significantly with regard to gender, grade taught in school, or educational level. Teachers from no single school participated disproportionately within either condition. Nor did the two groups differ significantly in mean age or mean years of teaching experience .

Overview of Analyses

Each subject answered three questions (judgement about hyperactivity or conduct problem, referral for evaluation, and responsibility for behavior) about each vignette. Each question was answered on a scale from 1 to 7. These three answers, or ratings, constitute the dependent measures used in all analyses. Stepup multiple regression analyses were conducted using the 5 factors in the study (gender, schoolwork, activity level, aggressiveness, peer acceptance) as independent variables, or predictors, and the ratings on the 3 questions as dependent, or criterion, variables. The entry level criterion in order for a predictor to be entered

into the regression equation was that it be significant at .05.

To get an overall picture of group responses in the two conditions, 2 different group analyses were done . First, the ratings were combined for all the subjects in each condition and entered into a multiple regression equation for a total-subjects analysis. This method treats each response from each subject as an individual case and thereby retains variability between subjects. This method will be referred to as total-subjects analysis.

Second, to get a composite picture of responses to each vignette, mean ratings for each vignette were computed. These mean ratings were then used as the dependent variable in multiple regression analyses. This method of analysis ignores individual differences by averaging across subjects, and represents the mean judgement rating given to each vignette by subjects within each condition (Mean ratings for vignettes are presented in Appendix B2). This method will be referred to as mean-score analysis.

Third, individual multiple regression analyses were conducted on each subject's ratings using only that subject's responses as the dependent variable. The individual analyses were conducted to examine individual differences in judgements and how individual ratings compared to group ratings. This method will be referred to as individual-subjects analysis. The mean-score and individual- subjects analyses were patterned after Ullman et

al (1981) who studied clinicians' diagnoses of hyperactive children described in hypothetical case reports. The Ullman study did not, however, conduct a total-subjects analysis as is done here.

Overall, then, three different types of multiple regression analyses were performed. These were (1) a total-subjects analysis, (2) a mean-score analysis, and (3) individual-subject analyses. All of these analyses were done within conditions, that is, separately for subjects within the hyperactivity and conduct-problem conditions.

Each of the three dependent measures was analyzed using all of the three different types of multiple regression analyses. Discussion of results will be presented separately according to the three dependent response measures on the questionnaire. First, analyses of judgement ratings will be presented; second, analyses of referral ratings will be presented; and third, analyses of responsibility ratings will be presented.

Since the independent variables used in these equations were categorical variables (e.g., aggressive or non-aggressive), dummy coding was used to enter them into the equations. Dummy coding is one coding technique used for conducting regression analyses when the level of measurement of the predictors (independent variables) is nominal. Dummy coding is used to denote membership of a given group. All members of a particular group are assigned an arbitrary number, and non-members are assigned another

arbitrary number (Kerlinger & Pedhazur, 1973). For these analyses, males were coded as "1" and females as "-1". For the remaining independent variables, which all denoted categories of behavior, neutral and positive behaviors were coded as "1" (adequate schoolwork, medium activity level, non-aggressiveness, liked by peers) and negative behaviors were coded as "-1" (poor schoolwork, high activity level, aggressiveness, not-liked by peers).

Knowledge of how the variables were coded is necessary for interpreting the beta weights of the predictor variables in the regression equations. Since negative categories of behaviors were coded "-1", beta weights in the equations which are negative would indicate that it was the negative aspects of these behaviors which were instrumental in predicting the dependent variable.

Reliability of Measures

Each participant responded to a series of 38 vignettes, six of which were replications. Reliability coefficients were computed on the ratings of the six original vignettes and the replicated vignettes for each of the three questions. Pearson correlation coefficients for all subjects combined were .76 for judgement ratings, .69 for referral ratings, and .62 for responsibility ratings. All subsequent analyses were based solely on ratings of the 32 original vignettes.

Analyses of Judgements about Hyperactivity and Conduct Problems

To determine which factors were taken into account to judge whether a child was considered to be hyperactive or a behavior problem, answers to the judgement question were used as the dependent variable in the first set of multiple regression analyses. A summary of both total-subjects and mean-score multiple regression outcomes for the judgement question is presented in Table 1.

As can be seen in Table 1, the mean-score analyses for both the hyperactivity and conduct-problem conditions contain higher beta weights, multiple R's, and R square values than the total-subjects analyses. These differences are due to the composition of the dependent variables. Simply combining responses from all subjects, as was done in the total-subjects analyses, includes differences between subjects in the dependent measure. When vignette means were used as the dependent measure, as in the mean-score analyses, these individual differences between subjects are ignored. In this way the variability of ratings for each vignette is reduced to the mean rating. Due to this reduction in variability to be accounted for by the regression equation, greater multiple R values occur.

Looking at the hyperactivity regression first, both the total-subjects and mean-score analyses include the same predictor variables with the same relative weights. A judgement of hyperactivity was made on the basis of activity

Table 1

Judgements about Hyperactivity and Conduct Problems

		Type of Analysis							
		Total-Subjects				Mean-Score			
	Predictors	Beta	R	R^2	F	Beta	R	R^2	F
HA	Activity Level	-.65	.65	.42	708.12** (1,913)	-.93	.93	.86	665.93** (1,30)
	Aggression	-.16	.66	.44	42.25** (1,913)	-.23	.96	.92	40.64** (1,30)
	Schoolwork	-.15	.68	.46	38.03** (1,913)	-.22	.98	.96	36.33** (1,30)
CP	Aggression	-.55	.55	.31	411.86** (1,655)	-.72	.72	.52	115.74** (1,30)
	Activity Level	-.42	.69	.48	240.83** (1,655)	-.55	.91	.82	67.17** (1,30)
	Peer Acceptance	-.13	.70	.50	24.22** (1,655)	-.17	.92	.85	6.35* (1,30)
	Schoolwork	-.13	.72	.52	22.77** (1,655)	-.17	.94	.88	6.25* (1,30)

HA=Hyperactivity Condition
CP=Conduct-Problem Condition
Beta=Standardized Regression Weight
R=Multiple Correlation Coefficient
R^2 =Total variance accounted for by step-up regression analysis

* $p<.05$
** $p<.0001$

level, aggressiveness, and schoolwork. That is, children who were described as having a high activity level, being aggressive, and doing poorly in their schoolwork were judged to be hyperactive. High activity level was clearly the major variable used in making this judgement, as indicated by the high beta weights (-.65 and -.93). This suggests that high activity level is the most critical factor in judging a child as hyperactive.

Summaries of the regression results for a judgement about conduct problems are also presented in Table 1. Children were judged to be conduct problems on the basis of aggressiveness, activity level, peer acceptance, and schoolwork. The negative beta weights indicate that children who were aggressive, had a high activity level, were not-liked by their peers, and did poorly in their schoolwork were considered to be behavior problems. The only variable in the study not utilized in predicting behavior problems was gender.

The magnitude of the beta weights indicates that aggressiveness was the major variable used to define behavior problems (B= -.55 and -.72) with activity level being also highly important (B= -.42 and -.55). Although activity level was also weighted heavily, the aggression variable accounted for the major portion of the multiple R (about 60%).

Individual-subjects regression equations for each subject's ratings were also computed. Although there was some variability between subjects in terms of which combinations of behaviors were utilized in determining a judgement, results were quite consistent across subjects and corresponded very closely to the group regression equation. Table 2 presents a summary of criteria used by individuals to judge both hyperactivity and conduct problems. These criteria represent independent variables which were significant in the regression equations derived for individual participants.

Multiple R values for the 29 subjects in the hyperactivity condition ranged from .38 to .99 (median R= .81). For 28 subjects, activity level was included as a significant predictor for judging hyperactivity. For the other subject, gender was the major predictor variable. Surprisingly, gender was unimportant in determining a judgement of either hyperactivity or behavior problems for most subjects, and it was rarely included as a significant predictor. Six subjects out of 29 (21%) judged hyperactivity on activity level alone. Seven subjects (24%) based their judgements on both activity level and aggression, and seven others based their judgements on activity level, aggression, and schoolwork. Thus two-thirds of the teachers considered some combination of these three variables to represent hyperactivity.

Table 2

Criteria Used by Individuals to Judge Hyperactivity and Conduct Problems

Hyperactivity		Conduct Problems	
Criteria*	Number of Subjects	Criteria*	Number of Subjects
AL	6	AG	1
AL, AG	7	AG, AL	8
AL, AG, SC	7	AG, AL, SC	4
AL, SC	4	AG, AL, SC, PA	3
AL, PA	4	AG, AL, PA	3
GE	1	AG, AL, GE	2
Total	29	Total	21

*AL=Activity Level
AG=Aggression
SC=Schoolwork
PA=Peer Acceptance
GE=Gender

For individual-subjects regression equations in the conduct-problem condition, multiple R values ranged from .69 to .95 (median R= .84). Out of 21 subjects, 14 (67%) utilized aggressiveness as a predictor variable, 6 (29%) utilized activity level, and one used peer acceptance. As can be seen in Table 2, all subjects used aggressiveness either alone or in combination with other variables to judge behavior problems. All but one subject (who based a judgement on aggressiveness alone) used both aggressiveness and activity level as criteria for making a judgement.

In summary, high activity level was the major criterion used to judge hyperactivity, and aggressiveness was the major criterion used to judge conduct problems. But both high activity level and aggressiveness were used by the majority of participants in both conditions in determining their judgements.

Analyses of Evaluation Referrals

The second question subjects responded to on each vignette asked, "If this were a child in your class, how likely would you be to request evaluative service for him/her?" The rating scale ranged from 1, not at all likely, to 7, very likely.

Responses to this question were analyzed in the same manner as responses to the judgement question. Summaries of regression results using total-subjects ratings and mean-score ratings are presented in Table 3 for both the hyperactivity and conduct-problem conditions. As can be

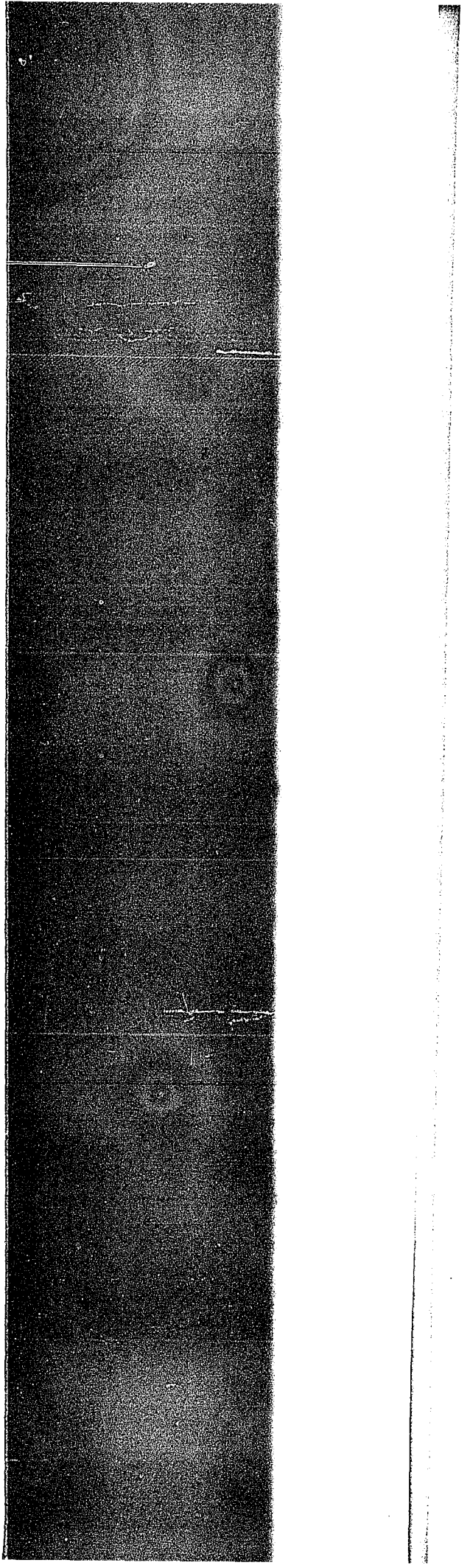
Table 3

Judgements about Evaluation Referrals

		Type of Analysis: Total-Subjects				Type of Analysis: Mean-Score			
	Predictors	Beta	R	R^2	F	Beta	R	R^2	F
HA	Schoolwork	-.48	.48	.23	350.43** (1,913)	-.71	.71	.51	96.03** (1,30)
	Aggression	-.31	.58	.33	145.98** (1,913)	-.46	.85	.72	40.15** (1,30)
	Activity Level	-.22	.62	.38	74.93** (1,913)	-.33	.91	.83	20.90** (1,30)
	Peer Acceptance	-.10	.63	.39	15.25** (1,913)	-.15	.93	.86	4.36* (1,30)
CP	Schoolwork	-.40	.40	.16	164.82** (1,655)	-.61	.61	.37	64.17** (1,30)
	Aggression	-.39	.56	.31	152.47** (1,655)	-.59	.85	.72	60.00** (1,30)
	Activity Level	-.18	.59	.34	32.48** (1,655)	-.28	.89	.80	13.04* (1,30)
	Peer Acceptance	-.14	.60	.36	21.53** (1,655)	-.22	.92	.84	8.09* (1,30)

HA=Hyperactivity Condition
CP=Conduct-Problem Condition
Beta=Standardized Regression Weight
R=Multiple Correlation Coefficient
R^2=Total variance accounted for by step-up regression analysis

* $p<.05$
** $p<.0001$



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seen in Table 3, the same four independent variables were significant in predicting an evaluation referral in both the hyperactivity and conduct-problem conditions. Furthermore, the four variables received approximately the same relative weights and accounted for about the same amount of variance in each condition (R square = .39 and .86 in the hyperactivity condition and .41 and .84 in the conduct-problem condition). The striking aspect about these ratings is the similarity in outcome between the two conditions.

The significant variables, in order of importance and entry into the regression equation, were schoolwork, aggression, activity level, and peer acceptance. As with the judgement ratings, all beta weights are negative, indicating that children who were described as doing poorly in their schoolwork, were aggressive, had a high activity level, and were not liked by their peers would most likely be referred for evaluation. The only variable which was not important in this decision was gender. Thus it seems girls and boys would be equally likely to be referred, given the presence of the above mentioned behaviors.

In both conditions, schoolwork was the first variable of entry into the equation, indicating it was the most important in predicting referral. Aggression was also heavily weighted in the two equations. In the conduct-problem condition, aggression received about equal weighting with schoolwork, whereas schoolwork was weighted

more heavily than aggression in the hyperactivity condition. Activity level and peer acceptance both received lesser weights but nevertheless added significantly to the predictive value of the equations.

The similarity of the regression analysis in both the hyperactivity and conduct-problem conditions indicates that all teachers in both conditions judged a need for referral on the same dimensions and would refer the same children for evaluative service. Although differences between conditions occurred in response to the judgement questions (question1), that is, activity level was considered the most important variable in determining hyperactivity, and aggressiveness was considered the most important variable in determining conduct-problems, these differences did not appear in deciding which children would be referred for evaluation. Even within the hyperactivity condition, activity level as a determinant for referral was of minor importance compared to schoolwork and aggressiveness.

Individual-subjects analyses on each subject's responses to the evaluation question were also computed. For the 29 participants in the hyperactivity condition, multiple R values for individual regressions ranged from .49 to .97 (median R = .73). For the 21 participants in the conduct-problem condition, multiple R values ranged from .66 to .94 (median R = .78). A summary of criteria used by individual teachers within each condition is presented in Table 4. As indicated, the most frequently employed

Table 4

Criteria Used by Individuals for Evaluation Referral

Hyperactivity		Conduct Problems	
Criteria*	Number of Subjects	Criteria*	Number of Subjects
SC	7	SC	4
SC, AG	6	SC, AG	5
SC, AG, AL	8	SC, AG, AL	3
SC, AG, PA	2	SC, AG, AL, PA	3
SC, AL	1	SC, AG, PA	3
SC, PA	1	AG, AL	2
AG	1	AG, AL, PA	1
AG, AL	2		
AG, PA	1		
Total	29	Total	21

*SC=Schoolwork
AG=Aggression
AL=Activity Level
PA=Peer Acceptance

variable on which referral was based was quality of schoolwork for both conditions.

As with the group regression analyses, there are striking similarities between teachers in the two conditions as to which criteria warranted referral for evaluation. Seventy-two percent of the teachers in each condition based their decisions on a combination of schoolwork, aggression, activity level and peer acceptance. And all but three teachers in each condition (90% in the hyperactivity condition and 86% in the conduct-problem condition) included quality of schoolwork as one of the defining criteria.

Besides schoolwork, aggression was clearly also an important variable related to evaluation referral. In the hyperactivity condition, 19 of the 29 participants (66%) based their decision on aggressiveness to some degree, and in the conduct-problem condition, 19 of the 21 participants (90%) did the same.

Activity level was considered less important for referral decisions in both conditions. Only 10 of the teachers in the hyperactivity condition (34%) and 10 in the conduct- problem condition (48%) included activity level as a criterion.

In summary, participants in both the hyperactivity and conduct-problem conditions made highly similar ratings for the evaluation referral questions. The same criteria, namely, schoolwork, aggression, activity level, and peer acceptance, predicted referral for evaluative service in

both conditions. Of these, the most important were schoolwork and aggression.

Judgements about Responsibility for Behavior

The third question to which subjects responded following each vignette was, "How responsible do you think this child is for his/her behavior?" Answers were made on a scale ranging from 1, not responsible, to 7, completely responsible. Summaries of these regression outcomes for both the hyperactivity and conduct-problem conditions are presented in Table 5.

One noticeable difference between this regression analysis and those for the first two questions is that these beta weights are positive values. Responsibility for behavior was judged on positive behaviors rather than on negative behaviors.

In the hyperactivity condition, ratings of responsibility were based on schoolwork, activity level, aggressiveness, and peer acceptance when the total-subjects analysis was conducted. Schoolwork and activity level were equally and most highly weighted, while aggressiveness and peer acceptance were less influential. Thus, children who performed adequately in their schoolwork, were of medium activity level, were not aggressive, and were liked by their peers were rated as the most responsible for their behavior. It should be noted, however, that the multiple R in this equation was relatively low (R = .36) and only accounted for 12% of the variance (R square = .12).

Table 5

Judgements about Responsibility for Behavior

		Type of Analysis							
		Total-Subjects				Mean-Score			
	Predictors	Beta	R	R^2	F	Beta	R	R^2	F
HA	Schoolwork	.23	.23	.05	57.40** (1,913)	.57	.57	.32	25.43** (1,30)
	Activity Level	.23	.33	.11	53.81** (1,913)	.46	.73	.53	16.96* (1,30)
	Aggression	.13	.35	.12	17.25** (1,913)	.34	.80	.65	9.17* (1,30)
	Peer Acceptance	.07	.36	.13	5.45* (1,913)				
CP	Schoolwork	.24	.24	.06	41.11** (1,655)	.67	.67	.45	30.40* (1,30)
	Activity Level	.12	.27	.07	10.42* (1,655)	.34	.75	.60	7.89* (1,30)

HA=Hyperactivity Condition
CP=Conduct-Problem Condition
Beta=Standardized Regression Weight
R=Multiple Correlation Coefficient
R^2=Total variance accounted for by step-up regression analysis

* $p<.05$
** $p<.0001$

The hyperactivity condition outcome for the mean-score analysis was slightly different. Activity level was most influential, followed by schoolwork, and then aggression. Peer acceptance as a predictor dropped out. Thus when individual differences between subjects was ignored by averaging across subjects, responsibility ratings were best predicted by activity level, schoolwork, and aggression, in that order. These are the same three variables whose negative counterparts best predicted a judgement of hyperactivity (see Table 1). This seems to indicate that those children most likely to be rated hyperactive were at the same time least likely to be rated responsible for their behavior.

In the conduct-problem condition, the only two variables which were significant in predicting responsibility were schoolwork and activity level, with schoolwork being more heavily weighted (see Table 5). The total-subjects regression analysis resulted in a multiple R of .27 which accounted for 7% of the variance. For the mean-score analysis, the multiple R rose to .75, a considerable increase, and R square, the variance accounted for by the regression equation, rose to .57. The noticeably lower multiple R and R square values for ratings on this question compared to other questions indicate there was much less agreement on responsibility ratings and much more variability both between and within subjects. It is interesting that the only two variables which significantly

predicted responsibility ratings in the conduct-problem condition, albeit not very completely, were schoolwork and activity level, while aggressiveness, or lack thereof, was also a significant predictor for responsibility ratings in the hyperactivity condition.

Individual-subjects analyses indicated considerable variability in judgements about responsibility. Regression equations for 7 of the 29 subjects in the hyperactivity condition produced no significant predictor variables. For one subject, the equation could not be calculated because all ratings were 4 (on a 7-point scale) and thus there was no variability. The multiple R values for the other 22 subjects ranged from .38 to .82 (median R = .58). Table 6 presents a summary of criteria used by individual teachers for judgements about responsibility in both the hyperactivity and conduct-problem conditions. Of the 22 subjects in the hyperactivity condition for whom regression equations were calculated, 13 (59%) based their ratings on some combination of schoolwork, activity level, and aggression. There was more variability among individual subjects for ratings on this question than for other questions. More subjects based their ratings on single variables in response to this question, whereas more complex criteria (multiple predictors) were used as a basis for other ratings. For example, half the subjects in the hyperactivity condition based their ratings for responsibility on either schoolwork or aggression or

Table 6

Criteria used by Individuals to Judge Responsibility for Behavior

Hyperactivity		Conduct Problems	
Criteria*	Number of Subjects	Criteria*	Number of Subjects
SC	6	SC	3
SC, AL	4	SC, AL	2
SC, AL, AG	3	SC, AL, AG	1
SC, AL, PA	1	SC, AL, PA	1
SC, AL, GE	1	SC, AG	1
SC, PA	1	AG	2
AG	2	AL	2
AL	3	PA	1
AL, PA	1	GE	2
		GE, AL	1
Total	22	Total	16

*SC=Schoolwork
AL=Activity Level
AG=Aggression
PA=Peer Acceptance
GE=Gender

activity level alone. For judging whether a child was hyperactive (question 1), only 7 subjects (one-third) based their ratings on a single criterion (activity level or gender), while the other two-thirds based their judgements on multiple criteria (see Table 3).

For the 21 subjects in the conduct-problem condition, individual regression equations for assigning responsibility yielded 16 equations with significant predictors. Multiple R's ranged from .36 to .79 (median R = .52). As in the hyperactivity condition, there was considerable variability in criteria on which responsibility was based. Of the 16 subjects, 10 (63%) based their ratings on single variables. Each of the 5 variables included in the study were the basis for at least one person's ratings for responsibility. Quality of schoolwork was the most frequently employed variable and was used by 8 subjects (50%) in assigning responsibility.

In summary, assignment of responsibility for behavior was based mainly on schoolwork, activity level, and aggression for subjects in the hyperactivity condition, and on schoolwork and activity level for subjects in the conduct-problem condition. There was more variability evident in responses to this question than responses to the first two questions, as indicated by the lower multiple R and R square values. Also, more variable criteria were used by individual subjects in rating responsibility.

Correlations among Dependent Measures

Correlations among dependent measures for both total-subjects analyses and mean-score analyses were calculated. These correlations are presented in Table 7.

As can be seen in the table, the correlations between the judgement and referral ratings were positive. Children who were judged to be hyperactive or conduct problems were also likely to be referred for evaluation. These correlations were considerably higher in the conduct problem condition ($r = .658$ and $.814$) than in the hyperactivity condition ($r = .386$ and $.574$). The referral question was not restricted to referral only for hyperactivity or conduct problems. Thus some children were seen as likely candidates for referral (possibly for learning disabilities, conduct problems, etc.), though not judged to be hyperactive.

The correlations between responsibility ratings and both judgement and referral ratings were negative. This suggests that children who were judged to be hyperactive or conduct problems, and/or were referred for evaluation, were seen as less responsible for their behavior than children who were not so judged or referred. In this case, the negative correlations were higher in the hyperactivity condition than in the conduct problem condition.

Effects of Labeling

Analyses were also conducted to examine whether judging a child hyperactive or a conduct problem corresponded differentially with referral and responsibility ratings.

Table 7

Correlations among Dependent Measures (a,b)

			1	2	3
Hyperactivity Condition	1.	Judgement		.574** (N=32)	-.731** (N=32)
	2.	Referral	.386** (N=916)		-.823** (N=32)
	3.	Responsibility	-.316** (N=917)	-.417** (N=916)	
Conduct-Problem Condition	1.	Judgement		.814** (N=32)	-.405* (N=32)
	2.	Referral	.658** (N=659)		-.686** (N=32)
	3.	Responsibility	-.128** (N=657)	-.172** (N=659)	

a. Mean-score correlations are shown above the diagonal.
b. Total-subjects correlations are shown below the diagonal.
Differences in Ns are due to missing cases.

* $p<.01$
** $p<.001$

This could be viewed as a labeling effect, for the ratings are based on the same vignettes, or children, but differed only on whether the child was judged hyperactive or non-hyperactive (or a conduct problem or non-conduct problem).

To achieve this, a dichotomous division of judgement ratings of vignettes was made. Since all judgement ratings were made on a scale from 1 to 7, ratings from 4 to 7 were considered a positive judgement of hyperactivity or conduct problem, and ratings from 1 to 3 were considered a judgement of non- hyperactivity or conduct problem. A one-way analysis of variance using the dichotomous judgement ratings as the independent variable and the referral and responsibility ratings as the dependent variables was conducted to determine if labeled or non-labeled children would be differentially referred or assigned responsibility for behavior. Only vignettes which were judged to be hyperactive or conduct problems by at least half of the respondents were included in the analysis. Sixteen vignettes were thereby included in the hyperactivity condition and 21 vignettes in the conduct problem condition.

Table 8 presents the results of these analyses. Results differed for the hyperactivity and conduct problem conditions. In the hyperactivity condition, children who were judged as hyperactive were more likely to be referred for evaluation, $F(1,454) = 69.03$, $\underline{p} < .0001$, and were

Table 8

Means and Standard Deviations
for Referral and Responsibility Ratings
for Labeled and Non-Labeled Profiles

	Hyperactivity Condition		Conduct-Problem Condition	
	No Label	Label	No Label	Label
Referral Ratings	4.42 (2.04)	5.65** (1.20)	3.58 (1.83)	5.33** (1.23)
Responsibility Ratings	4.57 (1.26)	4.24* (1.21)	4.39 (1.37)	4.42 (1.13)

* $p<.01$
** $p<.0001$

considered to be less responsible for their behavior, $F(1,454) = 7.74$, $p < .006$.

In the conduct problem condition, children who were judged to be conduct problems were more likely to be referred for evaluation, $F(1,473) = 111.15$, $p < .0001$. Responsibility ratings did not differ for the two groups, $F(1,471) = .03$, n.s. Children judged as conduct problems were not rated as more or less responsible than those not judged to be conduct problems.

DISCUSSION

Written descriptions cannot take the place of actual interactions with children. There are many subtle dynamics that occur between people that cannot be captured by case reports. To the extent that ratings of the vignettes used in this study reflect how teachers may actually evaluate such children, then some observations can be made.

Judgements about Hyperactivity and Conduct Problems

The results of this study suggest that conduct problems is a broader category of behavior than hyperactivity, and is one under which hyperactivity as a diagnostic entity may be subsumed. Many more children were judged to be conduct problems than were judged to be hyperactive. Yet the actual profiles which were rated as hyperactive were also rated as conduct problems. Children who might be judged hyperactive by the school and referred for evaluation appear to be some subset of children with certain characteristics who present a behavior problem for the school. But not all children judged as having conduct problems were viewed as hyperactive.

The main determinant used for a judgement of hyperactivity was high activity level. This result is not surprising since the word "hyperactivity" means excessive

activity. Activity level alone accounted for approximately 90% of the explained variance in predicting a judgement of hyperactivity. Aggressiveness and poor schoolwork were also taken into account in judging hyperactivity. Children who were described as exhibiting all three of these characteristics were the most frequently judged (i.e., by the most respondents) as hyperactive.

The main determinant used for a judgement of conduct problem was aggressiveness, which accounted for approximately 52% of the explained variance. Activity level was also a major determinant of a conduct problem judgement and by itself accounted for about 30% of the explained variance. This indicates that highly active children also present behavior problems for the school, but perhaps not to the same degree that aggressive children do. Although peer acceptance and schoolwork were also included as significant predictors, aggressiveness and activity level together accounted for nearly all of the variance (82%).

In the hyperactivity condition, activity level alone accounted for more of the variance (86%). This suggests that a judgement of hyperactivity involves a more narrowly defined set of criteria than conduct problems. Since activity level was the key variable used for judging hyperactivity, it seems likely that a child whose behavior includes high activity level might be referred for hyperactivity. At the same time it seems unlikely that a child who is aggressive but not highly active would be

judged hyperactive, for the key ingredient, high activity level, would not be present. But a child who is both highly active and aggressive could fall into either category.

Referral for Evaluation

In the present study, although some distinctions among children were made in terms of judging hyperactivity and conduct problems, these distinctions did not extend to the determination of which children would be referred for evaluative service. Teachers in both the hyperactivity and conduct problem conditions based their referrals on the same criteria. The most important consideration for referral was quality of schoolwork. This outcome may be institution specific and might not have occurred had the sample in the study been other than teachers. The primary concern of the teachers seemed to be accomplishing the task they were there to do, namely schoolwork. The heavy weighting of quality of schoolwork in referral decisions may also be somewhat inflated due to the occurrences in some of the vignettes of poor schoolwork, but otherwise positive characteristics, i.e., the children were neither aggressive nor highly active and therefore a judgement of hyperactivity or conduct problems was not warranted. In some of these cases, teachers noted that the child would be referred because of the possibility of learning disabilities.

The second major variable predicting referral in both conditions was aggression. Activity level was not a highly important predictor, even in the hyperactivity condition.

This seems somewhat contradictory given the magnitude of the activity level factor in a judgement of hyperactivity. It may be that teachers judged aggressive behavior to be more severe or disruptive than activity level and thus more in need of evaluative service. The correlations between judgement and referral ratings were higher in the conduct problem condition than in the hyperactivity condition. This could be a result of more children being judged conduct problems and also referred, whereas far fewer children were judged hyperactive, but still were referred, possibly for conduct or other problems. The greater weight given to aggression over activity level in the referral ratings suggests that teachers find aggressive behavior more demanding of evaluation and possibly treatment.

The role of aggressiveness in hyperactive children has been addressed in some studies (e.g., Langhorne & Loney, 1979; Prinz, Connor & Wilson, 1981; Stewart et al, 1981). Most of the studies which have attempted to subdivide children into groups according to hyperactivity and aggression dimensions have found that some children are only highly active, others are only aggressive, and yet a third group consists of children who are both highly active and aggressive. The present study suggests that all of these different groups of children might be referred for evaluation, but indicates that children who are solely aggressive would be less likely to be considered hyperactive by the school.

If, as this study indicates, the most likely children to be referred are those who are producing poor work and are also aggressive, the question becomes how these characteristics are evaluated by a diagnostician. In the Sandoval et al (1976) study which enumerated criteria used by physicians to diagnose hyperactivity, the two school items which were rated by a majority of the respondents as critically important to a diagnosis were history of discipline problems in school and moving from one activity to another in class. These items would seem to fit the conduct problem judgement criteria found in this study which were aggression and activity level. Also deemed to be of critical importance in the Sandoval study were four additional items relating to quality of schoolwork and academic problems. In the present study, poor schoolwork was included as a predictor in both conduct problem and hyperactivity judgements. Conrad (1976) reported that a school report of behavioral or learning problems was taken as an indication of possible hyperactivity, and he found that it was implicitly assumed by clinic personnel that if a child did not have problems in school he was not hyperactive. Conceivably then, a child referred for poor schoolwork and aggressiveness could become diagnosed as hyperactive. One recent study included aggressiveness as a characteristic of hyperactivity (Plomin & Foch, 1981).

It is possible that the child who is only highly active, or highly active and doing poorly in school, is less likely to be referred for evaluation. The frequent presence of both aggressiveness and high activity level in referred children may be because children with these characteristics are perceived as the most disruptive and unmanageable. Perhaps only the most severe cases end up being referred. The "pure" hyperactive - who only exhibits high activity level - unless severe, may be tolerated, especially if academic performance is adequate. Thus hyperactivity as a behavior disorder in need of attention apparently must be manifested as a syndrome.

Assignment of Responsibility

Overall, teachers judged children to be more responsible for their behavior if their schoolwork was adequate and if their activity level was medium. This again may be institution- specific to some extent, in that schoolwork is the main criterion. But more generally, it suggests that those children who were attending to the task at hand, their work, and were producing satisfactorily, were seen as responsible children. Activity level can be interpreted as related to schoolwork in that children with medium activity level appear to be attentive, stay on task, and so on.

The children of medium activity level, who do not flit from one task to another and who quietly remain in their seats, may also be perceived by teachers as children who are

"trying", hence they are responsible. And it follows that those who both try and succeed, i.e., perform adequately, are responsible. Contrast this with highly active children who are performing poorly academically - it may be inferred by teachers that the poor academic performance results from the inattentiveness and high activity. This is a logical inference, but an inference nevertheless. Hyperactive children have been described as impulsive (e.g., DSM III), and the impulsivity has been deemed to be a cause for poor academic performance - children can't stop to think, therefore they give the wrong answer, therefore they do poorly in school.

One study (Williams & Lahey, 1977) examined this very assumption. Children who were impulsive (responded quickly and made many errors) were differentially reinforced for taking longer to respond or for giving more accurate answers. Those children who were reinforced for accuracy became more accurate, but answered just as quickly as before when they had been inaccurate. Those children who were reinforced for a longer response latency took longer to respond than before, but still made a high number of errors. This study demonstrates that incorrect answers do not automatically result from responding quickly, or being impulsive. However, poor academic performance from impulsive children may be attributed to their impulsiveness. Impulsivity is considered to be a personality trait and not under conscious control, hence less responsibility is

assigned to these children - they are not "responsible" for their behavior because they are "impulsive".

One curious result in the responsibility outcome was that non-aggressiveness predicted assignment of responsibility in the hyperactivity condition but not in the conduct problem condition. Since the main predictor for conduct problems was aggressiveness, it would seem more likely that non-aggressiveness would have entered into a responsibility rating in the conduct-problem condition. The inclusion of non-aggressiveness as a predictor of responsibility in the hyperactivity condition may indicate that teachers perceive aggressive behavior as an adjunct of hyperactivity, since their mental set was for judging hyperactivity when rating the vignettes.

When judgement or labeling of the same vignettes as hyperactive or non-hyperactive was analyzed, it was shown that children who were rated hyperactive were considered to be less responsible for their behavior than those who were not rated hyperactive. Hyperactivity as a construct is fairly well defined and very likely carries with it the assumption that these children may be suffering from minimal brain damage and can't help themselves. Despite lack of evidence to support this, the inference was part of the concept initially and may linger. Thus teachers who were provided a mental set for hyperactivity by judging to what extent they considered children described in vignettes to be hyperactive may have also been provided with a basis on

which to judge responsibility. The same effect was not found in the conduct problem condition. Responsibility ratings did not vary with labeling.

Behavior problems, on the other hand, is a more general, catch-all category. Children may be behavior problems for innumerable reasons, but there is no one thing to which to attribute behavior problems, and nothing specific on which to judge responsibility. Teachers who responded to the conduct problem questionnaires frequently indicated they would have liked information about the child's family such as financial difficulties, divorce, etc. The respondents seemed to be searching for an explanation or reason for the child's behavior problem. Aggression does not carry the same connotation of lack of responsibility as high activity level does. Thus teachers faced with behavior-problem children seem to have judged responsibility on the task at hand - academic performance and associated behaviors, possibly because no other attributions presented themselves.

Absence of Gender Effects

The absence of gender effects in this study was notable. Gender was not a significant predictor for judgement, referral, or responsibility ratings. In the individual-subjects analyses, gender was rarely included as a significant predictor. This lack of significant gender effects would indicate that teachers, at least the ones in this sample, were equally likely to judge boys and girls

hyperactive or conduct problems, were equally likely to refer both for evaluation, and were equally likely to hold them responsible for their behavior given the other information about the child. Sex role biases on the part of these teachers seemed to be for the most part non-existent, at least in this respect.

Hyperactivity has been reported to be much more prevalent among boys than among girls, with estimates of a boy to girl ratio ranging from 5:1 to 9:1 (Weiss & Hechtman, 1979). This diagnosis is so commonly associated with boys that many studies investigating hyperactivity only sample boys (e.g., Langhorne & Loney, 1979; Roberts, Milich, Loney & Caputo, 1981; Sandberg et al, 1980). The Ullman et al (1981) study of clincians' diagnoses of hyperactivity presented vignettes of only boys to their subjects.

Several possible reasons for the lack of a significant gender effect in this study could be postulated. First and foremost is that gender biases in this sample of respondents were not present. Their criteria for judging hyperactivity and conduct problems may not have included whether the child in question was male or female. A second possibility is that this questionnaire did not tap any gender biases that did exist. It may be that the other variables were so salient that taking gender into consideration was unnecessary. Gender may have a more subtle effect that would not have shown up in these results because the vignettes were fairly brief and to the point. Had the

descriptions of children been more extensive and included behaviors that are more sensitive to sex-role stereotyping, it is possible gender may have been more influential.

It is possible that including vignettes of boys and girls was too obvious. Perhaps if gender had been included as a between-subjects variable, and subjects had responded to vignettes of only girls or only boys, gender effects might have occurred. With the advent of the women's movement, ERA, and widespread publicity, teachers may be more sensitive to sex-role stereotypes and have heightened awareness of their existence, as no doubt we all have. Hence effects of the presence of such stereotypes may have to be measured in more subtle ways than was done in this questionnaire. However, it could be said that sex-role stereotypes have not yet vanished, for one subject in the hyperactivity condition did base a hyperactivity judgement on gender alone. But in the study as a whole, effects of gender were nonsignificant.

Labeling

Results of this study indicate that the children who were perceived as hyperactive were more likely to be referred for evaluation and were considered to be less responsible for their behavior than those who were not perceived as hyperactive. It must be kept in mind that these were the same children (i.e., the same vignettes), but judged differently. This suggests that children who are labeled differently may also be perceived and consequently

treated differently by others.

The diagnosis of hyperactivity has been severely criticized as a pernicious labeling of disruptive children (Schrag & Divoky, 1975). The use of diagnostic labels and the consequences of such labeling have received considerable attention in recent years. Purportedly, the purpose of diagnostic labeling is to identify a problem, indicate its etiology, facilitate communication among professionals about the problem, and aid in the selection of appropriate treatment (Fernald & Gettys, 1980). The labeling of hyperactive children has been criticized as using a diagnostic label to control disobedient and disruptive children with drugs.

Many negative consequences of labeling have been expounded upon. Diagnostic labels which were initially coined to describe behaviors tend to become reified and to be regarded as explanations for behaviors rather than descriptions (Szasz, 1963). Hyperactivity, for example, rather than describing children who are inattentive, impulsive, and highly active, has come to be regarded as an explanation of <u>why</u> some children may be inattentive, impulsive, and highly active - "He acts that way because he's hyperactive."

Hyperactivity as a diagnostic label has been singled out and censured by some mainly because the prevailing treatment has been medication. Conrad (1975) has pointed out that medical treatment for hyperactivity was available

well prior to the actual conceptualization of the disorder, and it was only when both the treatment and the diagnostic label were available that prevalence of the disorder increased dramatically. He attributed the increase in incidence to several variables: the dramatic effect of treatment with stimulant medication, the promotion and publicizing of the treatment by the drug companies, and the establishment of the Association for Children with Learning Disabilities. He points out that although this Association had a less powerful influence on the development of hyperkinesis as a disorder than the drug companies, it nevertheless had an impact. It adopted the medical model and medical approach to the problem and disseminated information to schools about the problem, thereby sensitizing school officials and teachers to the concept of hyperactivity as a medical problem.

The acceptance and utilization of this diagnostic category by schools and clinicians is understandable. Consider the school's situation of trying to teach twenty-five children per class. The presence of highly active, aggressive children would be disruptive and make the task exceedingly difficult. Prior to the availability of the diagnostic category of hyperactivity, no ready treatment for such children was available. To date, there remains no easy treatment of conduct problems. But given the possibility of as simple and dramatic a way to quiet disruptive children as giving them a pill, it is not

surprising that any child who even remotely fits the category might be referred for diagnosis and treatment.

The availability of this diagnostic category and the highly successful treatment would be a welcome solution for the school that must deal with such children on a daily basis, and for the clinician from whom help is being demanded. It is also a solution for the parent who may previously have been blamed for the child's behavior and on whom demands would have been made to control the child. When a child is diagnosed hyperactive, not only has a way been provided to control the child, but the parent need no longer feel responsible for the child's behavior. Now the responsibility rests with the hyperactivity, not with the child, parent, or teacher.

Not all effects of labeling have been described as negative. Once a child is diagnosed and labeled as hyperactive, his behavior is excused. Neither the child nor parent nor teacher is blamed for the disturbing behavior - the hyperactivity is blamed (Conrad, 1977). As a consequence, a child may become more acceptable. One doctor recommended that parents be frank and open with neighbors in discussing their child who was diagnosed as hyperactive with minimal brain damage, because the neighbors would probably become more tolerant. The neighbors' perception of the child would change from the "bad boy" who should be taken in hand, to the boy with minimal brain dysfunction who could no longer be held responsible for his behavior (Gardner, 1973).

One study (Fernald & Gettys, 1980) suggests that people feel they understand a child's behavior problem better once it is labeled and are then more tolerant of it. Labels may actually be sought. One parent was reported as stating that although the doctor never provided a diagnostic label for the child, the parent labeled it minimal brain dysfunction or learning disability.

Whether school children with behavior problems are being labeled and treated as hyperactive remains inconclusive at this point. The results of the present study indicate that differentiation between types of children teachers labeled hyperactive and types labeled conduct problems is not great, especially when it comes to referrals. Those labeled hyperactive seem to comprise some subset of more general conduct problem children. Since activity level and aggression were used in judging hyperactivity and in judging conduct problems, it is conceivable that behavior problem children could end up being diagnosed hyperactive, or that children seen by teachers as having some conduct problems may be referred for evaluative service with possible hyperactivity.

Limitations of Study

There are limitations to this study which must be taken into account. The teachers answered questions about written vignettes of hypothetical children. Only a limited amount of information was included in these vignettes. It is possible that with additional information, judgements might

have changed. Comments on questionnaires in response to the question about what kinds of additional information teachers would have liked included such things as information about the child's family, scatter of subtests on the WISC-R, social relationships with adults, anecdotal information about the child, history of medication, self image, previous classroom management procedures, physical impairments, class size, other testing information such as achievement tests, school evaluation records from previous years, and last but not least, "our" definition of hyperactivity. A few subjects commented that since the questionnaires did not provide a definition of hyperactivity the results would be invalid because different people might use different criteria. The type of information most frequently requested referred to the child's family and home situation. Hence, any or all of these additional pieces of information may have impacted the results found in this study.

The teachers who participated in this study were to some extent self selected. Schools were selected randomly, and approximately fifty percent of the teachers from each school took part in the study. Those teachers who did not choose to participate may have responded differently. It is not possible to determine how total participation by teachers might have affected the outcome of this study.

Six of the vignettes in each set of the questionnaire were repeated with different names, and reliability coefficients were estimated by computing the percentage of

agreement between the original six vignettes and their replicates. This can be construed as a type of test-retest reliability coefficient in that the same vignettes were rated twice, although with a time lapse of minutes rather than weeks or months as in more conventional test-retest situations. The reliability coefficients ranged from .76 for judgement ratings to .62 for responsibility ratings. To what extent these ratings might change over time is unknown at this point. This study was conducted toward the end of the school year. Teachers may be less tolerant at this time of year, having spent nine months with students who are now eagerly awaiting summer vacation. It is possible that teachers' perceptions and ratings would be different at another time of year, for example in September, when both students and teachers are fresh and rested.

As mentioned previously, written profiles of children cannot capture the essence of actual interactions with and observations of real children. Subtle characteristics of children which could not have been included in a study of this type may also impact judgements.

The subjects in this study came from middle class, predominantly white schools. Results may not be applicable to racially integrated or large urban schools, and therefore should not be generalized to such.

Future Directions for Research

The present study indicates that while some distinctions between hyperactivity and conduct problems may be made at the school level, these distinctions may not extend to referrals for evaluative service. One extension of this research would be investigating the referral process.

Issues to address in the referral process would be the identification of characteristics of actual children who are referred - whether they are primarily aggressive, highly active, or a combination of both of these. Also, what precise role does quality of schoolwork play in this identification process? Are children who produce adequate schoolwork, in spite of being highly active or aggressive, more readily tolerated than children who do not?

It would also be informative to investigate whether school officials offer a tentative diagnosis as a basis for further evaluation. Several studies have indicated that the school referral is a primary consideration in diagnosing hyperactivity (e.g., Conrad, 1976; Ullman et al, 1981). It is not known at this point where actual diagnosis begins, whether it is at the school or with physicians or psychologists.

There are probably other variables which impact a judgement of hyperactivity at the school level, and which should be examined. Teachers mentioned a variety of other types of information they might have used, especially

familial characteristics. Some studies have investigated familial characteristics of children already diagnosed hyperactive (e.g., Sandberg et al, 1978). It is not known at this point, however, precisely how such information affects identification and referral at the school level. As one study pointed out (Fernald & Gettys, 1989), some parents may actually seek such a diagnosis and label and thereby encourage referral.

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APPENDICES

General Information

Sex_____ Age_____

Name of School----------

Grade taught_____

Number of years teaching_____

Education - Highest Degree Obtained_____

General Instructions

This project is designed to provide some information on how children's behavior in school is viewed. You have been asked to participate because of your knowledge and experience with children.

On each of the following pages you will be provided with a description of a child's behavior in school and asked to give your own opinion of that child. While we realize that with additional information your opinion about the child may change, we would like your judgement about the child based solely on the information provided.

The profiles of the children were designed to provide you with the same information you would have if the child attended your school. This information includes the child's age and grade in school, quality of school work, class behavior, and social behavior. Also included are the child's I.Q. scores from the Wechsler Intelligence Scale for Children-Revised (WISC-R). These are the Verbal I.Q. Score (VIQ), Performance I.Q. Score (PIQ), and Full Scale I.Q. Score (FSIQ). While information about all these areas are provided about each child, the order and wording in each profile varies to avoid monotony.

There are 38 profiles in all. Before beginning, you may wish to thumb through some of the descriptions to familiarize yourself with the way the information is presented as well as to note the types of responses asked for. When you are ready to begin, please read the profiles one at a time and answer all the questions before proceeding to the next one. Each question can be answered by circling one of the numbers from 1 to 7 on the line following the question. Please <u>do not</u> refer back to previous descriptions once they have been completed.

After you have completed the 38 profiles, you will find a few additional questions at the end. Please feel free to make any comments you wish on any profile, and on the study in general.

Of course, no names will be used in reporting the results of this project. You can be assured of total anonymity. We will be happy to provide you with the results of the full study when it is completed, if you wish.

We will be happy to answer any questions you may have about this study, or to discuss any part of it with you. Please feel free to contact us at the number listed below if you have any questions or comments.

Thank you in advance for your cooperation and participation in this study, for we know your time is valuable.

This form will be removed from the questionnaire when it is returned to us. Your answers will be completely anonymous and your name or identity will not in any way be linked with your answers.

Consent Form

I have read and understand the nature and purpose of the research described above. I am aware that I can ask and have answered any questions I have regarding this research. I am also aware that I will not be referred to by name.

_____I agree to participate _____
signature

Child 1

Tom A. is 8 years old and in the third grade. On the WISC-R, Tom's Verbal I.Q. was 102, his Performance I.Q. 94, and his Full Scale I.Q. was 98.

Tom's school work is adequate. He generally completes most of his assignments, and his work is reasonably neat and accurate. His activity level in school is average for his age. He usually remains at his desk during work time and attends to his assignment. During class activities, he is cooperative.

Tom is an extremely aggressive child. He swears, teases other children, pushes them around, and sometimes hits them. He is extremely argumentative. He has taken things belonging to others and on occasions destroyed them. Despite his aggressiveness, he has several friends and seems to be liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?*

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

*To what extent would you consider this child to be a behavior problem?
(This is the question that appeared on all of the vignettes in the Conduct-Problem Questionnaire)

Child 2

Jason R. is in the third grade and 8 years old. Jason is not well liked by the other children and has few if any friends. He is very aggressive. He refuses to share and grabs other children's property from them. He kicks and hits other children, swears at them, and is argumentative.

Jason's schoolwork is adequate. He completes most of his assignments and is reasonably neat and accurate. In class he is about as active as most kids. He is boisterous occasionally, but usually stays at his desk and concentrates on his work. On the WISC-R, his Verbal I.Q. was 112, Performance I.Q. 108. and Full Scale I.Q. 110.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 3

Aaron J. is 9 years old and in the fourth grade. His Verbal I.Q. was 94, Performance I.Q. 96, and Full Scale I.Q. 95 on the WISC-R.

Aaron is extremely active in school. He speaks out of turn and interrupts during class discussion. During work time he is noisy at his desk which distracts and disturbs the other children. He often leaves his seat during both work and class activities. His work is acceptable. It is moderately neat and accurate, and he manages to complete most of his assignments.

Aaron is very aggressive. He argues and swears a lot. He pushes other children and sometimes hits them. He has been seen grabbing things away from others. Yet he seems to be accepted and liked by his peers and has several friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all		moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all		somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 4

Andrew S. is a 9 year old boy in the fourth grade. On the WISC-R, Andrew's V.I.Q. was 117, his P.I.Q. 107, and his F.S.I.Q. 112.

During classtime, Andrew is extremely disruptive. He interrupts and speaks out of turn during class discussions. During work time he frequently leaves his seat. When he remains at his desk he is often noisy - he noisily rearranges things, crumples paper, taps pencils, and so on. He frequently disturbs other children around him. Andrew's work is adequate. He completes most of his assignments with reasonable accuracy and neatness.

Andrew is a very aggressive child. He often teases other children and calls them names. He is argumentative and pushes others around. Andrew is not well liked by his peers and has few friends. He is seldom invited to join in group activities.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 5

Ann L. is 8 years old and in the third grade. On the WISC-R Ann's Verbal I.Q. was 103, her performance I.Q. 95, and her Full Scale I.Q. was 99.

Ann's school work is adequate. She generally completes most of her assignments, and her work is reasonably neat and accurate. Her activity level in school is average for her age. She usually remains at her desk during work time and attends to her assignment. During class activities she is cooperative.

Ann is an extremely aggressive child. She swears, teases other children, pushes them around, and sometimes hits them. She is extremely argumentative. She has taken things belonging to others and on occasions destroyed them. Despite her aggressiveness, she has several friends and seems to be liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 6

Lisa J. is in the third grade and 8 years old. Lisa is not well liked by the other children and has few if any friends. She is very aggressive. She refuses to share and grabs other children's property from them. She kicks and hits other children, swears at them, and is argumentative.

Lisa's schoolwork is adequate. She completes most of her assignments and is reasonably neat and accurate. In class she is about as active as most kids. She is boisterous occasionally, but usually stays at her desk and concentrates on her work. On the WISC-R, her Verbal I.Q. was 113, Performance I.Q. 109, and Full Scale I.Q. 111.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 7

Deborah S. is 9 years old and in the fourth grade. Her Verbal I.Q. on the WISC-R was 95, Performance I.Q. 97, and Full Scale I.Q. 96.

Deborah is extremely active in school. She speaks out of turn and interrupts during class discussion. During work time she is noisy at her desk which distracts and disturbs the other children. She often leaves her seat during both work and class activities. Her work is acceptable. It is moderately neat and accurate, and she manages to complete most of her assignments.

Deborah is very aggressive. She argues and swears a lot. She pushes other children and sometimes hits them. She has been seen grabbing things away from others. Yet she seems to be accepted and liked by her peers and has several friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 8

Mary M. is a 9 year old girl in the fourth grade. On the WISC-R, Mary's Verbal I.Q. was 118, her Performance I.Q. was 108, and her Full Scale I.Q. 113.

During classtime, Mary is extremely disruptive. She interrupts and speaks out of turn during class discussions. During work time she frequently leaves her seat. When she remains at her desk she is often noisy - she noisily rearranges things, crumples paper, taps pencils, and so on. She frequently disturbs other children around her. Mary's work is adequate. She completes most of her assignments with reasonable accuracy and neatness.

Mary is a very aggressive child. She often teases other children and calls them names. She is argumentative and pushes others around. Mary is not well liked by her peers and has few friends. She is seldom invited to join in group activities.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all		moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all		somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 9

Jim D. is an 8 year old boy in the 3rd grade. Jim's work in school is adequate. Most of his assignments are fairly neat and accurate and usually completed on time. He is active sometimes, but nothing out of the ordinary. He usually attends to his work, does not interrupt during class activities, and does not disturb others.

Jim gets along well with his peers, seems to have many friends and is well liked. His Verbal I.Q. on the WISC-R was assessed as 97, Performance I.Q. as 107, and Full Scale I.Q. as 102.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 10

John C. is 9 years old and in the fourth grade. He is doing well in his schoolwork. He finishes his assignments with few errors, and his work is generally neat. During class he is quite cooperative. He participates in group activities and pays attention to what is going on. During work time he remains at his desk and does his work. He is not disruptive and does not bother the other children. On the WISC-R, John's V.I.Q. was 104, P.I.Q. 106, and Full Scale I.Q. 105.

John is cooperative with the other children in group activities. He is not aggressive or pushy. Yet he does not seem to be well liked or accepted by the other children. He seems to have very few friends and is rarely invited to join in games or free-play activities.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 11

Dale S. is a 9 year old boy in the third grade. He gets along well with the other children and is well liked by them. He is a friendly child and cooperative in activities with others.

Dale's classwork is adequate. It is reasonably accurate and neat, and he completes most of his work on time, even though he is an extremely active child. He often leaves his seat during work time and walks around the room. When at his desk he continuously makes noise by rustling paper or tapping a pencil or tapping his feet. He often disturbs other children.

Dale's Verbal I.Q. was assessed as 111, Performance I.Q. as 101, and Full Scale I.Q. as 106.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 12

Ben P. is 9 years old and in the fourth grade. Ben's Verbal I.Q. and Performance I.Q. were 102 and 104 respectively, with a Full Scale I.Q. of 103. He is extremely active and disruptive in class. He moves around the room a lot. When he remains at his desk he is often noisy and disturbs the other children near him. During work time he sometimes calls out questions or comments when others are trying to work. Ben's work is adequate. He does most of his assignments with a resonable amount of accuracy and neatness.

Ben is not an aggressive child. He is friendly to the other children and cooperates in group activities. But Ben is not well liked or accepted by the other children, and has few if any friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 13

Janet W. is an 8 year old girl in the third grade. Janet's work in school is adequate. Most of her assignments are fairly neat and accurate and usually completed on time. She is active sometimes, but nothing out of the ordinary. She usually attends to her work, does not interrupt during class activities, and does not disturb others.

Janet gets along well with her peers, seems to have many friends and is well liked. Her V.I.Q. on the WISC-R was assessed as 98, P.I.Q. as 108, and F.S.I.Q. as 103.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 14

Donna M. is 9 years old and in the fourth grade. She is doing well in her schoolwork. She finishes her assignments with few errors and her work is generally neat. During class she is cooperative, participates in group activities, and pays attention to what is going on. During work time she remains at her desk and does her work. She is not disruptive and does not bother the other children. On the WISC-R, Donna's V.I.Q. was 105, P.I.Q. 107, and Full Scale I.Q. 106.

Donna is cooperative with the other children in group activities. She is not aggressive or pushy. Yet she does not seem to be well liked or accepted by the other children. She seems to have very few friends and is rarely invited to join in games or free-play activities.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 15

Linda N. is a 9 year old girl in the fourth grade. She gets along well with the other children and is well liked by them. She is a friendly child and cooperative in activities with others.

Linda's classwork is adequate. It is reasonably accurate and neat, and she completes most of her work on time, even though she is an extremely active child. She often leaves her desk during work time and walks around the room. When at her desk she continuously makes noise by rustling paper or tapping a pencil or tapping her feet. She often disturbs other children.

Linda's Verbal I.Q. was assessed as 112, Performance I.Q. as 102, and Full Scale I.Q. as 107 on the WISC-R.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 16

Laura T. is 9 years old and in the fourth grade. Laura's Verbal I.Q. and Performance I.Q. were 103 and 105, respectively, with a Full Scale I.Q. of 104. Laura is extremely active and disruptive in class. She moves around the room a lot. When she remains at her desk she is often noisy and disturbs the other children near her. During work time she sometimes calls out questions or comments when others are trying to work. Laura's work is adequate. She does most of her assignments with a reasonable amount of accuracy and neatness.

Laura is not an aggressive child. She is friendly to the other children and cooperates in group activities. But Laura is not well liked or accepted by the other children, and has few if any friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 17

David G. is a 9 year old boy in the fourth grade. David's Full Scale I.Q. on the WISC-R was 112, with a V.I.Q. of 115 and a P.I.Q. of 109. David's schoolwork is extremely poor. His papers are usually very messy, most of the answers are incorrect, and the assignments are usually unfinished.

David is reasonably well behaved in class. He cooperates in group activities. During individual work time he remains at his desk, is quiet, and does not disturb others.

David is a very aggressive child. He frequently teases other children. He is argumentative and pushes others around. Despite this, he seems to be well liked by the other children and has quite a few friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 18

Erik D. is a 9 year old boy in the fourth grade. He is normally active in class but not disruptive. During class activities he is usually attentive and does not speak out of turn. During work time he is quiet, stays at his desk, and attends to his assignment. Nevertheless, Erik's work is well below average. He fails to complete his assignments, what he does finish is of very poor quality and full of mistakes, and often very messy. Erik's Verbal I.Q. on the WISC-R is 103, Performance I.Q. 111, and Full Scale I.Q. 107.

Erik is not at all well liked by the other children and has no friends. He is an extremely aggressive child. He takes things that don't belong to him and is often destructive. He is very argumentative. He often pushes other children and hits them.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all		moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all		somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 19

Jeff K. is 8 years old and in the third grade. He is extremely active in class and constantly moving around. He does not remain quiet during class activities or during work time. He constantly fiddles with things, makes noise, and disrupts the class. His school work is very poor - far below average. He does not finish his work. The assignments he turns in are messy and full of errors. His Full Scale I.Q. on the WISC-R is 109 with a Verbal I.Q. of 113 and a Performance I.Q. of 105.

Jeff is also extremely aggressive. He is pushy and shoves others around. He is often destructive and takes what does not belong to him. Despite his aggressive behaviors, he seem to be accepted by the other children. He has several friends and is generally well liked.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 20

Matt T. is 8 years old and in the third grade. He is extremely active and disruptive in class. He does not stay at his desk during work time, he is noisy, and he disrupts the class. During class activities he frequently speaks out of turn and says inappropriate things that do not pertain to the discussion. His work is very poor, mostly incomplete, and full of errors. It is also very sloppy. Matt's Verbal I.Q. on the WISC-R was assessed as 95, Performance I.Q. as 101, and Full Scale I.Q. as 98.

Matt has few if any friends and is not well liked by the other children. He is extremely aggressive. He swears, grabs things away from others, hits and pushes other children, and is sometimes destructive.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 21

Carol B. is a 9 year old girl in the fourth grade. Carol's Full Scale I.Q. on the WISC-R was 111, with a Verbal I.Q. of 114 and a Performance I.Q. of 108. Carol's schoolwork is extremely poor. Her papers are usually very messy, most of the answers are incorrect, and the assignments are usually unfinished.

Carol is reasonably well behaved in class. She cooperates in group activities. During individual work time she remains at her desk, is quiet, and does not disturb others.

Carol is a very aggressive child. She frequently teases other children. She is argumentative and pushes others around. Despite this, she seems to be well liked by the other children and has quite a few friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all		moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all		somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 22

Jane R. is a 9 year old girl in the fourth grade. She is normally active in class but not disruptive. During class activities she is usually attentive and does not speak out of turn. During work time she is quiet, stays at her desk, and attends to her assignment. Nevertheless, Jane's work is well below average. She fails to complete her assignments, what she does finish is of very poor quality and full of mistakes, and often very messy. Jane's Verbal I.Q. on the WISC-R is 102, Performance I.Q. 110, and Full Scale I.Q. 106.

Jane is not at all well liked by the other children and has no friends. She is an extremely aggressive child. She takes things that don't belong to her and is often destructive. She is very argumentative. She often pushes other children and hits them.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 23

Lucy C. is 8 years old and in the third grade. She is extremely active in class and constantly moving around. She does not remain quiet during class activities or during work time. She constantly fiddles with things, makes noise, and disrupts the class. Her school work is very poor - far below average. She does not finish her work. The assignments she turns in are messy and full of errors. Her Full Scale I.Q. on the WISC-R is 108, with a Verbal I.Q. of 112 and a Performance I.Q. of 104.

Lucy is also extremely aggressive. She is pushy and shoves others around. She is often destructive and takes what does not belong to her. Despite her aggressive behaviors, she seems to be accepted by the other children. She has several friends and is generally well liked.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 24

Ellen D. is 8 years old and in the third grade. She is extremely active and disruptive in class. She does not stay at her desk during work time, she is noisy, and she disrupts the class. During class activities she frequently speaks out of turn and says inappropriate things that do not pertain to the discussion. Her work is very poor, mostly incomplete, and full of errors. It is also very sloppy. Ellen's Verbal I.Q. on the WISC-R was assessed as 94, Performance I.Q. as 100, and Full Scale I.Q. as 97.

Ellen has few if any friends and is not well liked by the other children. She is extremely aggressive. She swears, grabs things away from others, hits and pushes other children, and is sometimes destructive.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 25

Kevin V. is a 9 year old boy in the fourth grade. Kevin's work in school is very poor. He does not complete his assignments. The work he turns in is full of mistakes and often dirty and messy. His I.Q. scores on the WISC-R were 96 on the Verbal Scale, 102 on the Performance Scale, and 99 on the Full Scale.

During classtime, Kevin is generally well-behaved. He participates in class activities and during worktime he remains at his desk and attends to his assignments. Kevin is well liked by his peers. He is friendly and cooperative, and gets along well with the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 26

Dick B. is 8 years old in the third grade. His work in school is of very poor quality and well below average. He rarely completes his assignments. What he does turn in is very sloppy and full of mistakes. During class activities, Dick is generally attentive and not disruptive. During work time he stays at his desk and is reasonably quiet and attends to his work. His Verbal I.Q. on the WISC-R was 109, his Performance I.Q. was 105, and his Full Scale I.Q. was 107.

Dick is not an aggressive child. He is cooperative in group activities and does not antagonize the other children. Nevertheless, he is not well liked by his peers and is not invited to join in their games, and has few friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 27

Bill B. is an 8 year old boy in the third grade. Bill is an extremely active child. He rarely stays seated during work time but instead repeatedly gets up and moves around the room. When he is at his desk he is noisy and constantly fiddling with paper or pencils or other things. He moves around and disturbs the other children. During class activities he is inattentive and speaks out of turn. Bill's work is far below average. He rarely finishes his assignments. What he does do is messy and inaccurate. Bill's Verbal I.Q. was assessed as 92, his Performance I.Q. as 102, and his full scale I.Q. as 97.

Bill is not an aggressive or pushy child. He is friendly and well liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 28

Mark D. is a 9 year old boy in the fourth grade. On the WISC-R, Mark's Verbal I.Q was assessed as 108, his Performance I.Q. as 112, and his Full Scale I.Q. as 110.

Mark's activity level in school is extremely high. He often leaves his seat and walks around the room during work time. When he is at his desk he fools around, is noisy and disturbs the other children. His schoolwork is very poor. He does not complete his assignments. What he does complete is inaccurate and messy.

Mark is not an aggressive child. He is friendly and cooperative in group activities. Yet he does not have many friends and is not well liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 29

Karen E. is an 8 year old girl in the third grade. Karen's work in school is very poor. She does not complete her assignments. The work she turns in is full of mistakes and often dirty and messy. Her I.Q. scores on the WISC-R were 95 on the Verbal Scale, 101 on the Performance Scale, and 98 on the Full Scale.

During classtime, Karen is generally well-behaved. She participates in class activities and during worktime she remains at her desk and attends to her assignments. Karen is well liked by her peers. She is friendly and cooperative, and get along well with the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 30

Nancy E. is 8 years old in the third grade. Her work in school is of very poor quality and well below average. She rarely completes her assignments. What she does turn in is very sloppy and full of mistakes. During class activities, Nancy is generally attentive and not disruptive. During work time she stays at her desk and is reasonably quiet and attends to her work. Her V.I.Q. on the WISC-R was 108, her P.I.Q. was 104, and her F.S.I.Q. was 106.

Nancy is not an aggressive child. She is cooperative in group activities and does not antagonize the other children. Nevertheless, she is not well liked by her peers and is not invited to join in their games, and has few friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all		moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all		somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 31

Judy F. is an 8 year old girl in the third grade. Judy is an extremely active child. She rarely stays seated during work time but instead repeatedly gets up and moves around the room. When she is at her desk she is noisy and constantly fiddling with paper or pencils or other things. She moves around and disturbs the other children. During class activities she is inattentive and speaks out of turn. Judy's work is far below average. She rarely finishes her assignments. What she does do is messy and inaccurate. Judy's V.I.Q. was assessed as 91, her P.I.Q. as 101, and her Full Scale I.Q. as 96.

Judy is not an aggressive or pushy child. She is friendly and well liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 32

Jennifer K. is a 9 year old girl in the fourth grade. On the WISC-R, Jennifer's Verbal I.Q. was assessed as 107, her Performance I.Q. as 111, and her Full Scale I.Q. as 109.

Jennifer's activity level in school is extremely high. She often leaves her seat and walks around the room during work time. When she is at her desk she fools around, is noisy and disturbs the other children. Her schoolwork is very poor. She does not complete her assignments. What she does complete is inaccurate and messy.

Jennifer is not an aggressive child. She is friendly and cooperative in group activities. Yet she does not have many friends and is not well liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 33

Elizabeth B. is a 9 year old girl in the fourth grade. She is normally active in class but not disruptive. During class activities she is usually attentive and does not speak out of turn. During work time she is quiet, stays at her desk, and attends to her assignment. Nevertheless, Elizabeth's work is well below average. She fails to complete her assignments, what she does finish is of very poor quality and full of mistakes, and often very messy. Elizabeth's Verbal I.Q. on the WISC-R is 102, Performance I.Q. 110, and Full Scale I.Q. 106.

Elizabeth is not at all well liked by the other children and has no friends. She is an extremely aggressive child. She takes things that don't belong to her and is often destructive. She is very argumentative. She often pushes other children and hits them.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 34

Diane R. is 8 years old and in the third grade. She is extremely active and disruptive in class. She does not stay at her desk during work time, she is noisy, and she disrupts the class. During class activities she frequently speaks out of turn and says inappropriate things that do not pertain to the discussion. Her work is very poor, mostly incomplete, and full of errors. It is also very sloppy. Diane's Verbal I.Q. on the WISC-R was assessed as 94, Performance I.Q. as 100, and Full Scale I.Q. as 97.

Diane has few if any friends and is not well liked by the other children. She is extremely aggressive. She swears, grabs things away from others, hits and pushes other children, and is sometimes destructive.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 35

Ian M. is a 9 year old boy in the fourth grade. On the WISC-R, Ian's Verbal I.Q was assessed as 108, his Performance I.Q. as 112, and his Full Scale I.Q. as 110.

Ian's activity level in school is extremely high. He often leaves his seat and walks around the room during work time. When he is at his desk he fools around, is noisy and disturbs the other children. His schoolwork is very poor. He does not complete his assignments. What he does complete is inaccurate and messy.

Ian is not an aggresive child. He is friendly and cooperative in group activities. Yet he does not have many friends and is not well liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 36

Julie R. is 9 years old and in the fourth grade. Her Verbal I.Q. on the WISC-R was 95, Performance I.Q. 97, and Full Scale I.Q. 96.

Julie is extremely active in school. She speaks out of turn and interrupts during class discussion. During work time she is noisy at her desk which distracts and disturbs the other children. She often leaves her seat during both work and class activities. Her work is acceptable. It is moderately neat and accurate, and she manages to complete most of her assignments.

Julie is very aggressive. She argues and swears a lot. She pushes other children and sometimes hits them. She has been seen grabbing things away from others. Yet she seems to be accepted and liked by her peers and has several friends.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for her?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for her behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 37

Dick B. is in the third grade and 8 years old. Dick is not well liked by the other children and has few if any friends. He is very aggressive. He refuses to share and grabs other children's property from them. He kicks and hits other children, swears at them, and is argumentative.

Dick's schoolwork is adequate. He completes most of his assignments and is reasonably neat and accurate. He is about as active as most kids. He is boisterous occasionally, but usually stays at his desk and concentrates on his work. On the WISC-R, his Verbal I.Q. was 112, Performance I.Q. 108. and Full Scale I.Q. 110.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Child 38

Nathan P. is 8 years old and in the third grade. On the WISC-R, Nathan's Verbal I.Q. was 102, his Performance I.Q. 94, and his Full Scale I.Q. was 98.

Nathan's school work is adequate. He generally completes most of his assignments, and his work is reasonably neat and accurate. His activity level in school is average for his age. He usually remains at his desk during work time and attends to his assignment. During class activities, he is cooperative.

Nathan is an extremely aggressive child. He swears, teases other children, pushes them around, and sometimes hits them. He is extremely argumentative. He has taken things belonging to others and on occasions destroyed them. Despite his aggressiveness, he has several friends and seems to be liked by the other children.

Given the above information:

To what extent would you consider this child to be hyperactive?

Not at all			moderate			very much
1	2	3	4	5	6	7

If this child were a student in your class, how likely would you be to request evaluative service for him?

Not at all			moderately			Very likely
1	2	3	4	5	6	7

How responsible do you think this child is for his behavior?

Not at all			somewhat			completely
1	2	3	4	5	6	7

Is there some other way you would classify this child?

Is there any additional information that you would have liked to see included in the profiles to help you make a judgement? If so, please list those types of information below.

In your own words, please describe what a hyperactive child is like. That is, what characteristic(s) would you consider essential in the description of a hyperactive child?*

*In your own words, please describe what behaviors you consider to be a problem in children.
(This is the question that appeared in the Conduct-Problem Questionnaire)

Appendix B1

Significance Values of Subject Variables between Conditions

Variable	Chi Square	F	p Value
Sex	.10 (df=1)		.75
Age		1.56 (df=1,42)	.23
School	4.22 (df=8)		.84
Grade	11.77 (df=7)		.12
Years teaching		.56 (df=1,46)	.46
Education	.63 (df=1)		.43

Appendix B2

Vignette Means

	Predictors*					Judgement		Referral		Responsibility	
#	GE	SC	AL	AG	PA	HA**	CP**	HA**	CP**	HA**	CP
01	1	1	1	-1	1	1.96	5.29	4.82	5.10	4.82	4.71
02	1	1	1	-1	-1	2.00	5.00	4.48	4.81	4.66	4.52
03	1	1	-1	-1	1	3.64	5.14	4.75	4.76	4.61	4.71
04	1	1	-1	-1	-1	3.86	5.10	5.10	5.19	4.72	4.70
05	-1	1	1	-1	1	1.93	4.65	4.39	4.40	4.75	4.65
06	-1	1	1	-1	-1	2.03	4.55	4.38	4.55	4.69	4.80
07	-1	1	-1	-1	1	3.71	5.00	4.82	4.81	4.46	4.52
08	-1	1	-1	-1	-1	3.83	5.48	5.34	4.86	4.62	4.70
09	1	1	1	1	1	1.17	1.38	1.31	1.48	6.38	5.62
10	1	1	1	1	-1	1.24	1.95	2.69	3.00	5.24	5.10
11	1	1	-1	1	1	3.31	3.35	3.32	2.90	4.76	4.38
12	1	1	-1	1	-1	3.32	4.48	4.41	4.24	4.55	4.52
13	-1	1	1	1	1	1.14	1.29	1.72	1.52	6.24	5.71
14	-1	1	1	1	-1	1.28	1.90	2.66	2.95	5.41	4.65
15	-1	1	-1	1	1	3.28	3.25	2.97	3.10	4.82	4.71
16	-1	1	-1	1	-1	3.32	4.48	4.07	4.29	4.75	4.52
17	1	-1	1	-1	1	2.14	4.00	5.43	5.29	4.61	4.48
18	1	-1	1	-1	-1	2.00	4.90	5.55	5.52	4.72	4.67
19	1	-1	-1	-1	1	4.93	5.76	6.39	6.00	4.25	4.43
20	1	-1	-1	-1	-1	4.66	5.90	6.45	5.90	3.59	4.10
21	-1	-1	1	-1	1	2.07	4.11	5.34	5.47	4.69	4.72
22	-1	-1	1	-1	-1	1.76	4.85	5.72	5.65	4.45	4.20
23	-1	-1	-1	-1	1	4.93	5.81	6.18	5.90	4.21	4.24
24	-1	-1	-1	-1	-1	4.50	6.00	6.32	5.95	4.11	3.90
25	1	-1	1	1	1	1.62	2.35	4.72	4.50	4.62	4.35
26	1	-1	1	1	-1	1.34	3.00	5.32	5.05	5.66	4.10
27	1	-1	-1	1	1	4.31	4.30	5.72	4.95	4.16	3.95
28	1	-1	-1	1	-1	3.79	4.86	5.52	5.10	4.24	4.33
29	-1	-1	1	1	1	1.48	2.15	5.10	4.00	4.79	3.95
30	-1	-1	1	1	-1	1.62	2.65	5.45	4.86	4.52	4.00
31	-1	-1	-1	1	1	4.34	4.43	5.83	5.05	3.90	3.90
32	-1	-1	-1	1	-1	4.21	4.48	5.62	5.33	4.34	3.86

* GE=Gender (1=male; -1=female)
SC=Schoolwork (1=adequate; -1=poor)
AL=Activity Level (1=medium; -1=high)
AG=Aggression (1=not aggressive; -1=aggressive)
PA=Peer Acceptance (1=liked; -1=not liked)

** HA=Hyperactivity Condition; CP=Conduct Problem Condition